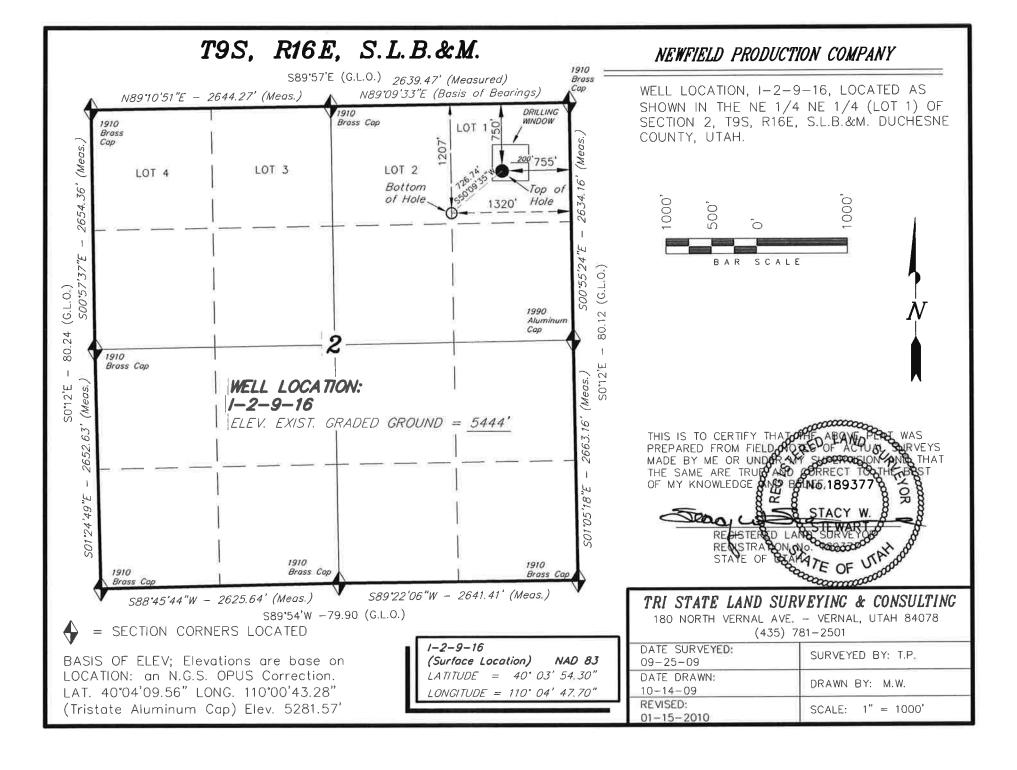
		ST DEPARTMENT DIVISION C	OF NA					FORI			
APPLI	CATION FOR P	ERMIT TO DRIL	L				1. WELL NAME and Greater i	NUMBER Monument Butte I-2-	9-16		
2. TYPE OF WORK DRILL NEW WELL	REENTER P&A	WELL DEEPE	EN WELI	L (())			3. FIELD OR WILDC	AT ONUMENT BUTTE			
4. TYPE OF WELL Oil We	ll Coalbed	Methane Well: NO					5. UNIT or COMMUNITIZATION AGREEMENT NAME  GMBU (GRRV)				
6. NAME OF OPERATOR NE	WFIELD PRODUCT	ION COMPANY					7. OPERATOR PHON	I <b>E</b> 435 646-4825			
8. ADDRESS OF OPERATOR	t 3 Box 3630 , Myt	on, UT, 84052					9. OPERATOR E-MA: mcr	<b>IL</b> ozier@newfield.com			
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)	DERAL, INDIAN, OR STATE ( SEE							RSHIP	FEE (III)		
ML-21839  13. NAME OF SURFACE OWNER (if box 12		PEDERAL INC	JIAN I	g STATE (	N LEEV		FEDERAL IND	TAN STATE (			
15. ADDRESS OF SURFACE OWNER (if box	12 = 'fee')					-	16. SURFACE OWNE	R E-MAIL (if box 1	2 = 'fee')		
		L8. INTEND TO COM	MING	I F PRODUCT	TON FROM		19. SLANT	` `	,		
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		MULTIPLE FORMAT	IONS	gling Applicat	_	_	_	ECTIONAL 📵 HO	DRIZONTAL (		
20. LOCATION OF WELL	FOO	TAGES	Q <sup>-</sup>	TR-QTR	SECTI	ON	TOWNSHIP	RANGE	MERIDIAN		
LOCATION AT SURFACE	750 FNL	. 755 FEL		NENE	2		9.0 S	16.0 E	S		
Top of Uppermost Producing Zone	1073 FNL	1142 FEL		NENE	2		9.0 S	16.0 E	S		
At Total Depth	1207 FNL	1320 FEL		NENE	2		9.0 S	16.0 E	S		
21. COUNTY  DUCHESNE	2	22. DISTANCE TO N		T LEASE LIN 207	E (Feet)		23. NUMBER OF ACI	RES IN DRILLING	JNIT		
		25. DISTANCE TO N Applied For Drilling	g or Co		AME POOL		<b>26. PROPOSED DEPTH</b> MD: 6253 TVD: 6253				
<b>27. ELEVATION - GROUND LEVEL</b> 5444	2	28. BOND NUMBER	В00	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER : 001834				F APPLICABLE			
		A	TTACH	IMENTS							
VERIFY THE FOLLOWING	ARE ATTACHE	D IN ACCORDAN	ICE W	ITH THE UT	TAH OIL A	AND G	AS CONSERVATIO	ON GENERAL RU	ILES		
WELL PLAT OR MAP PREPARED BY	LICENSED SURV	EYOR OR ENGINEE	R	<b>№</b> сом	PLETE DRI	LLING	PLAN				
AFFIDAVIT OF STATUS OF SURFACE	OWNER AGREE	MENT (IF FEE SURF	ACE)	FORM	1 5. IF OPE	RATOR	IS OTHER THAN TH	IE LEASE OWNER			
DIRECTIONAL SURVEY PLAN (IF DIDRILLED)		<b>№</b> торо	)GRAPHIC	AL MAP							
NAME Mandie Crozier	Tech			PHON	<b>E</b> 435 646-4825						
SIGNATURE				EMAII	L mcrozier@newfield.o	com					
<b>API NUMBER ASSIGNED</b> 43013502440000		APPROVAL				Pe	DAGEN TIME TO THE STATE OF THE				

API Well No: 43013502440000 Received: 2/2/2010

	Proposed Hole, Casing, and Cement									
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		I				
Prod	7.875	5.5	0	6253		Γ				
Pipe	Grade	Length	Weight			Ι				
	Grade J-55 LT&C	6253	15.5			Γ				
						I				

API Well No: 43013502440000 Received: 2/2/2010

	Proposed Hole, Casing, and Cement									
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)						
Surf	12.25	8.625	0	450						
Pipe	Grade	Length	Weight							
	Grade J-55 ST&C	450	24.0							
					Γ	Г				





Project: USGS Myton SW (UT) Site: SECTION 2 9S 16E

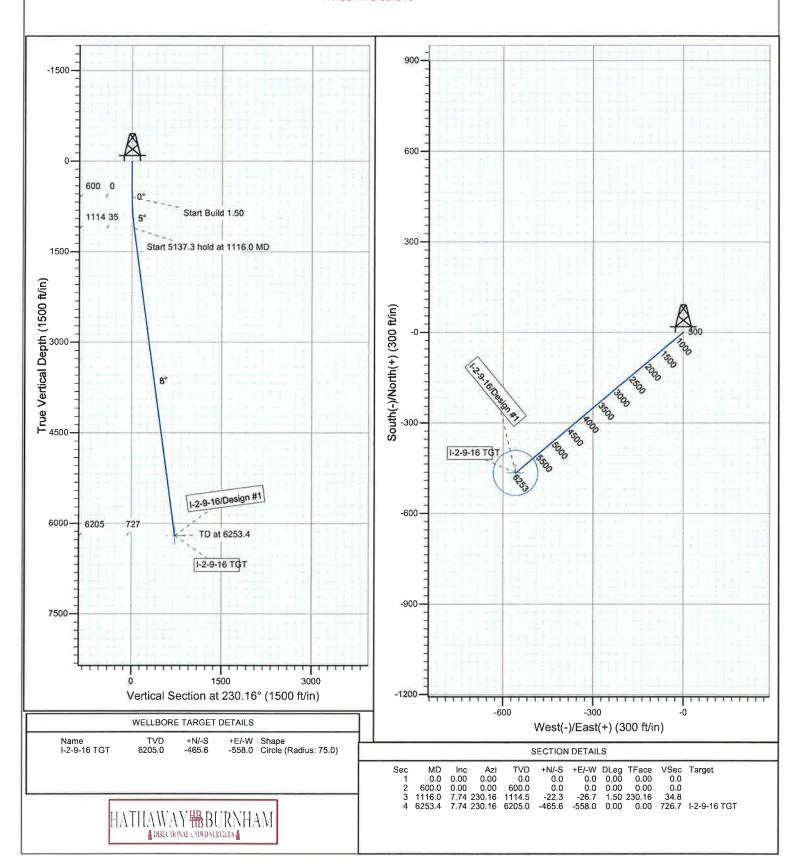
Well: I-2-9-16 Wellbore: Wellbore #1 Design: Design #1



Azimuths to True North Magnetic North: 11.51°

Magnetic Field Strength: 52469.5snT Dip Angle: 65.86° Date: 2009/11/04 Model: IGRF200510

KOP @ 600' DOGLEG RATE 1.5 DEG/100 TARGET RADIUS IS 75'





# **NEWFIELD EXPLORATION**

USGS Myton SW (UT) SECTION 2 9S 16E I-2-9-16

Wellbore #1

Plan: Design #1

# **Standard Planning Report**

04 November, 2009





### **HATHAWAY BURNHAM**

Planning Report



Database: Company: Project: Site:

EDM 2003.21 Single User Db **NEWFIELD EXPLORATION** USGS Myton SW (UT)

SECTION 2 9S 16E

I-2-9-16 Well: Wellbore #1 Wellbore: Design #1 Design:

**Local Co-ordinate Reference:** 

**TVD Reference:** MD Reference:

**Survey Calculation Method:** 

North Reference:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) 1-2-9-16 @ 5456.0ft (Original Well Elev)

Minimum Curvature

**Project** USGS Myton SW (UT), DUCHESNE COUNTY, UT, USA

Map System: Geo Datum:

Map Zone:

US State Plane 1983

North American Datum 1983 Utah Central Zone

Мар

System Datum:

Mean Sea Level

Using geodetic scale factor

Site SECTION 2 9S 16E, SEC 2 9S 16E

Site Position: From:

Northing: Easting:

7,193,600.00ft 2,036,100.00ft Latitude: Longitude:

40° 3' 34.952 N 110° 5' 10.480 W

Position Uncertainty: 0.0 ft Slot Radius: **Grid Convergence:** 

**Well Position** 

Well

I-2-9-16, SHL LAT: 40 03 54.30, LONG: -110 04 47.70

+N/-S 1,957.8 ft +E/-W 1,771.3 ft Northing: Easting:

7,195,585.46 ft 2,037,839.80 ft

Latitude: Longitude:

40° 3' 54.300 N 110° 4' 47.700 W

0.91°

**Position Uncertainty** 

0.0 ft

Wellhead Elevation:

5,456.0 ft

**Ground Level:** 

5,444.0 ft

Wellbore Wellbore #1 **Magnetics Model Name** Sample Date Declination Dip Angle **Field Strength** (°) IGRF200510 2009/11/04 11.51 65.86 52,470

Design Design #1

Audit Notes:

Version: Phase: PROTOTYPE

Tie On Depth:

0.0

**Vertical Section:** 

Depth From (TVD) (ft) 6,205.0

+N/-S (ft) 0.0

+E/-W (ft) 0.0

Direction (°) 230.16

leasured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,116.0	7.74	230.16	1,114.5	-22.3	-26.7	1.50	1.50	0.00	230.16	
6,253.4	7.74	230.16	6,205.0	-465.6	-558.0	0.00	0.00	0.00	0.00 I-:	2-9-16 TGT



### **HATHAWAY BURNHAM**

Planning Report



Database: Company: Project: Site: EDM 2003.21 Single User Db NEWFIELD EXPLORATION USGS Myton SW (UT)

SECTION 2 9S 16E I-2-9-16

Well: I-2-9-16
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev)
I-2-9-16 @ 5456.0ft (Original Well Elev)

True

Minimum Curvature

Design:	Design #1								
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	1.50	230.16	700.0	-0.8	-1.0	1.3	1.50	1.50	0.00
800.0	3.00	230.16	799.9	-3.4	-4.0	5.2	1,50	1.50	0.00
900.0	4.50	230.16	899.7	-7.5	-9.0	11.8	1.50	1.50	0.00
1,000.0	6.00	230.16	999.3	-13.4	-16.1	20.9	1.50	1.50	0.00
1,100.0	7.50	230.16	1,098.6	-20.9	-25.1	32.7	1.50	1.50	0.00
1,116.0	7.74	230.16	1,114.5	-22.3	-26.7	34.8	1.50	1.50	0.00
1,200.0	7.74	230.16	1,197.7	-29.5	-35.4	46.1	0.00	0.00	0.00
1,300.0	7.74	230.16	1,296.8	-38.2	-45.7	59.6	0.00	0.00	0.00
1,400.0	7.74	230.16	1,395.8	-46.8	-56.1	73.1	0.00	0.00	0.00
1,500.0	7.74	230.16	1,494.9	-55.4	-66.4	86.5	0.00	0.00	0.00
1,600.0	7.74	230.16	1,594.0	-64.1	-76.8	100.0	0.00	0.00	0.00
1,700.0	7.74	230.16	1,693.1	-72.7	-87.1	113.5	0.00	0.00	0.00
1,800.0	7.74	230.16	1,792.2	-81.3	-97.5	126.9	0.00	0.00	0.00
1,900.0	7.74	230.16	1,891.3	-89.9	-107.8	140.4	0.00	0.00	0.00
2,000.0	7.74	230.16	1,990.4	-98.6	-118.1	153.9	0.00	0.00	0.00
2,100.0	7.74	230.16	2,089.5	-107.2	-128.5	167.3	0.00	0.00	0.00
2,100.0	7.74	230.16	2,188.6	-115.8	-138.8	180.8	0.00	0.00	0.00
2,300.0	7.74	230.16	2,287.6	-124.5	-149.2	194.3	0.00	0.00	0.00
•									
2,400.0	7.74	230.16	2,386.7	-133.1	-159.5	207.7	0.00	0.00	0.00
2,500.0	7.74	230.16	2,485.8	-141.7	-169.9	221.2	0.00	0.00	0.00
2,600.0	7.74	230.16	2,584.9	-150.3	-180.2	234.7	0.00	0.00	0.00
2,700.0	7.74	230.16	2,684.0	-159.0	-190.5	248.1	0.00	0.00 0.00	0.00 0.00
2,800.0	7.74	230.16	2,783.1	-167.6	-200.9	261,6	0.00		
2,900.0	7.74	230.16	2,882.2	-176.2	-211.2	275.1	0.00	0.00	0.00
3,000.0	7.74	230.16	2,981.3	-184.9	-221.6	288.6	0.00	0.00	0.00
3,100.0	7.74	230.16	3,080.4	-193.5	-231.9	302.0	0.00	0.00	0.00
3,200.0	7.74	230.16	3,179,4	-202.1	-242.2	315,5	0.00	0.00	0.00
3,300.0	7.74	230.16	3,278.5	-210.7	-252.6	329.0	0.00	0.00	0.00
3,400.0	7.74	230.16	3,377.6	-219.4	-262.9	342.4	0.00	0.00	0.00
3,500.0	7.74	230.16	3,476.7	-228.0	-273.3	355.9	0.00	0.00	0.00
3,600.0	7.74	230.16	3,575.8	-236.6	-283.6	369.4	0.00	0.00	0.00
3,700.0	7.74	230.16	3,674.9	-245.3	-294.0	382.8	0.00	0.00	0.00
3,800.0	7.74	230.16	3,774.0	-253.9	-304.3	396.3	0.00	0.00	0.00
3,900.0	7.74	230.16	3,873.1	-262.5	-314.6	409.8	0.00	0.00	0.00
4,000.0	7.7 <del>4</del> 7.74	230.16	3,972.2	-202.5 -271.1	-325.0	423.2	0.00	0.00	0.00
4,100.0	7.74 7.74	230.16	4,071.2	-271.1	-335.3	436.7	0.00	0.00	0.00
4,100.0	7.74	230.16	4,170.3	-279.6	-345.7	450.2	0.00	0.00	0.00
4,300.0	7.74	230.16	4,269.4	-297.0	-356.0	463.6	0.00	0.00	0.00
4,400.0	7.74	230.16	4,368.5	-305.7	-366.3	477.1	0.00	0.00	0.00
4,500.0	7.74	230.16	4,467.6	-314.3	-376.7	490.6	0.00	0.00	0.00
4,600.0	7.74	230.16	4,566.7	-322.9	-387.0	504.1	0.00	0.00	0.00
4,700.0	7.74	230.16	4,665.8	-331.5	-397.4	517.5	0.00	0.00	0.00
4,800.0	7.74	230.16	4,764.9	-340.2	-407.7	531.0	0.00	0.00	0.00
4,900.0	7.74	230.16	4,864.0	-348.8	-418.1	544.5	0.00	0.00	0.00
5,000.0	7.74	230.16	4,963.0	-357.4	-428.4	557.9	0.00	0.00	0.00
5,100.0	7.74	230.16	5,062.1	-366.1	-438.7	571.4	0.00	0.00	0.00
5,200.0	7.74	230.16	5,161.2	-374.7	-449.1	584.9	0.00	0.00	0.00



### **HATHAWAY BURNHAM**

Planning Report



Database: Company: Project: Site:

EDM 2003.21 Single User Db NEWFIELD EXPLORATION USGS Myton SW (UT) SECTION 2 9S 16E

I-2-9-16 Well: Wellbore: Wellbore #1 Design: Design #1

**Local Co-ordinate Reference:** 

**TVD Reference:** MD Reference:

**Survey Calculation Method:** 

North Reference:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) I-2-9-16 @ 5456.0ft (Original Well Elev)

True

Minimum Curvature

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.0	7.74	230.16	5,260.3	-383.3	-459.4	598.3	0.00	0.00	0.00
5,400.0	7.74	230.16	5,359.4	-391.9	-469.8	611.8	0.00	0.00	0.00
5,500.0	7.74	230.16	5,458.5	-400.6	-480.1	625.3	0.00	0.00	0.00
5,600.0	7.74	230.16	5,557.6	-409.2	-490.4	638.7	0.00	0.00	0.00
5,700.0	7.74	230.16	5,656.7	-417.8	-500.8	652.2	0.00	0.00	0.00
5,800.0	7.74	230.16	5,755.8	-426.5	-511.1	665.7	0.00	0.00	0.00
5,900.0	7.74	230.16	5,854.8	-435.1	-521.5	679.1	0.00	0.00	0.00
6,000.0	7.74	230.16	5,953.9	-443.7	-531.8	692.6	0.00	0.00	0.00
6,100.0	7.74	230.16	6,053.0	-452.3	-542.2	706.1	0.00	0.00	0.00
6,200.0	7.74	230.16	6,152.1	-461.0	-552.5	719.6	0.00	0.00	0.00
6,253.4	7.74	230.16	6,205.0	-465.6	-558.0	726.7	0.00	0.00	0.00

### NEWFIELD PRODUCTION COMPANY GREATER MONUMENT BUTTE 1-2-9-16 AT SURFACE: NE/NE SECTION 2, T9S, R16E DUCHESNE COUNTY, UTAH

#### TEN POINT DRILLING PROGRAM

### 1. **GEOLOGIC SURFACE FORMATION:**

Uinta formation of Upper Eocene Age

#### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:

Uinta 0 – 1565' Green River 1565' Wasatch 6253'

### 3. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS:

Green River Formation 1565' - 6253' - Oil

Fresh water may be encountered in the Uinta Formation, but would not be expected below about 450'. All water shows and water bearing geologic units shall be reported to the geologic and engineering staff of the Vernal Office prior to running the next string of casing or before plugging orders are requested. All water shows must be reported within one (1) business day after being encountered.

All usable (<10,000 PPM TDS) water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling will be recorded by depth and adequately protected. This information shall be reported to the Vernal Office.

Detected water flows shall be sampled, analyzed, and reported to the geologic & engineering staff of the Vernal Office. The office may request additional water samples for further analysis. Usage of the State of Utah form *Report of Water Encountered* is acceptable, but not required.

The following information is requested for water shows and samples where applicable:

Location & Sampled Interval Date Sampled Flow Rate Temperature Hardness pH

naruness pr

Water Classification (State of Utah)

Dissolved Iron (Fe) (ug/l)

Dissolved Magnesium (Mg) (mg/l)

Dissolved Bicarbonate (NaHCO<sub>3</sub>) (mg/l)

Dissolved Sulfate (SO<sub>4</sub>) (mg/l)

Dissolved Total Solids (TDS) (mg/l)

Ten Point Well Program & Thirteen Point Well Program Page 2 of 9

#### 4. PROPOSED CASING PROGRAM

a. Casing Design: Greater Monument Butte 1-2-9-16

Size	lr Ir	nterval	Weight	Grade	Coupling	Design Factors			
Size	Тор	Bottom	vveigni	Grade	Coupling	Burst	Collapse	Tension	
Surface casing	o.i	4501	24.0	1.55	СТО	2,950	1,370	244,000	
8-5/8"	0'	450'	24.0	J-55	STC	11.69	9.57	22.59	
Prod casing	0,1	0.0501	4==	1.55	1.70	4,810	4,040	217,000	
5-1/2"	0,	6,253'	15.5	J-55	LTC	2.42	2.03	2.24	

#### Assumptions:

- 1) Surface casing max anticipated surface press (MASP) = Frac gradient gas gradient
- 2) Prod casing MASP (production mode) = Pore pressure gas gradient
- 3) All collapse calculations assume fully evacuated casing w/ gas gradient
- 4) All tension calculations assume air weight

Frac gradient at surface casing shoe = 13.0 ppg
Pore pressure at surface casing shoe = 8.33 ppg
Pore pressure at prod casing shoe = 8.33 ppg
Gas gradient = 0.115 psi/ft

All casing shall be new or, if used, inspected and tested. Used casing shall meet or exceed API standards for new casing.

All casing strings shall have a minimum of 1 (one) centralizer on each of the bottom three (3) joints.

b. Cementing Design: Greater Monument Butte I-2-9-16

	F20	Description	Sacks	ОН	Weight	Yield
Job	Fill	Description	ft <sup>3</sup>	Excess*	(ppg)	(ft³/sk)
Curfore cosing	450'	Class G w/ 2% CaCl	206	30%	15.8	1.17
Surface casing	450	Class G W/ 2% CaCl	241	30 /0	13.0	1217
Prod casing	4,253'	Prem Lite II w/ 10% gel + 3%	294	30%	11.0	3.26
Lead	4,255	KCI	958	3070	11.0	3.20
Prod casing	2,000'	50/50 Poz w/ 2% gel + 3%	363	30%	14.3	1.24
Tail	2,000	KCI	451	3070	14.5	1,24

- \*Actual volume pumped will be 15% over the caliper log
- Compressive strength of lead cement: 1800 psi @ 24 hours, 2250 psi @ 72 hours
- Compressive strength of tail cement: 2500 psi @ 24 hours

Hole Sizes: A 12-1/4" hole will be drilled for the 8-5/8" surface casing. A 7-7/8" hole will be drilled for the 5-1/2" production casing.

Waiting On Cement: A minimum of four (4) hours shall elapse prior to attempting any pressure testing of the BOP equipment which would subject the surface casing cement to pressure, and a minimum of six (6) hours shall elapse before drilling out of the wiper plug, cement, or shoe is begun. WOC time shall be recorded in the Driller's Log. Compressive Strength shall be a minimum of 500 psi prior to drilling out.

The 8-5/8" surface casing shall in all cases be cemented back to surface. In the event that during the primary surface cementing operation the cement does not circulate to surface, or if

Ten Point Well Program & Thirteen Point Well Program Page 3 of 9

the cement level should fall back more than 8 feet from surface, then a remedial surface cementing operation shall be performed to insure adequate isolation and stabilization of the surface casing.

The production casing cementing program shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals.

As a minimum, usable water zones shall be isolated and/or protected by having a cement top for the production casing at least 200 feet above the base of the usable water. If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc., shall be utilized to help isolate the cement from contamination by the mud being displaced ahead of the cement slurry.

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or to 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield. If pressure declines more than 10% in 30 minutes, corrective action shall be taken.

Setting of each string of casing showing the size, grade, weight of casing set, depth, amounts and type of cement used, whether cement circulated or the top of the cement behind the casing, depth of the cementing tools used, casing test method and results, and the date of the work done. Spud date will be shown on the first reports submitted.

### 5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

The operator's minimum specifications for pressure control equipment are as follows:

An 8" Double Ram Hydraulic unit with a closing unit will be utilized. Function test of BOP's will be check daily.

Refer to Exhibit C for a diagram of BOP equipment that will be used on this well.

#### 6. TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATION MUDS:

From surface to ±450 feet will be drilled with an air/mist system. From about 450 feet to TD, a fresh water system will be utilized. Clay inhibition and hole stability will be achieved with a KCl substitute additive. This additive will be identified in the APD and reviewed to determine if the reserve pit shall be lined. This fresh water system will typically contain Total Dissolved Solids (TDS) of less than 3000 PPM. Anticipated mud weight is 8.4 lbs/gal. If necessary to control formation fluids or pressure, the system will be weighted with the addition of bentonite gel, and if pressure conditions warrant, with barite.

No chromate additives will be used in the mud system on Federal and/or Indian lands without prior BLM approval to ensure adequate protection of fresh aquifers.

No chemicals subject to reporting under SARA Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of this well.

Ten Point Well Program & Thirteen Point Well Program Page 4 of 9

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

Newfield Production will **visually** monitor pit levels and flow from the well during drilling operations.

### 7. **AUXILIARY SAFETY EQUIPMENT TO BE USED:**

Auxiliary safety equipment will be a Kelly Cock, bit float, and a TIW valve with drill pipe threads.

### 8. <u>TESTING, LOGGING AND CORING PROGRAMS</u>:

The logging program will consist of a Dual Induction, Gamma Ray and Caliper log from TD to base of surface casing @ 450' +/-, and a Compensated Neutron-Formation Density Log from TD to 3500' +-. A cement bond log will be run from PBTD to cement top. No drill stem testing or coring is planned for this well.

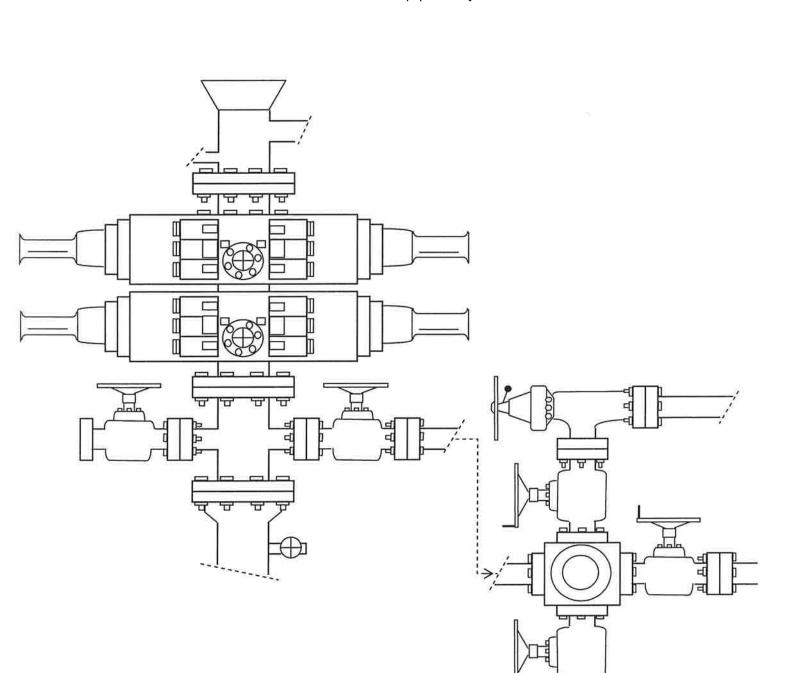
### 9. **ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:**

No abnormal temperatures or pressures are anticipated. No hydrogen sulfide has been encountered or is known to exist from previous drilling in the area at this depth. Maximum anticipated bottomhole pressure will approximately equal total depth in feet multiplied by a 0.433 psi/foot gradient.

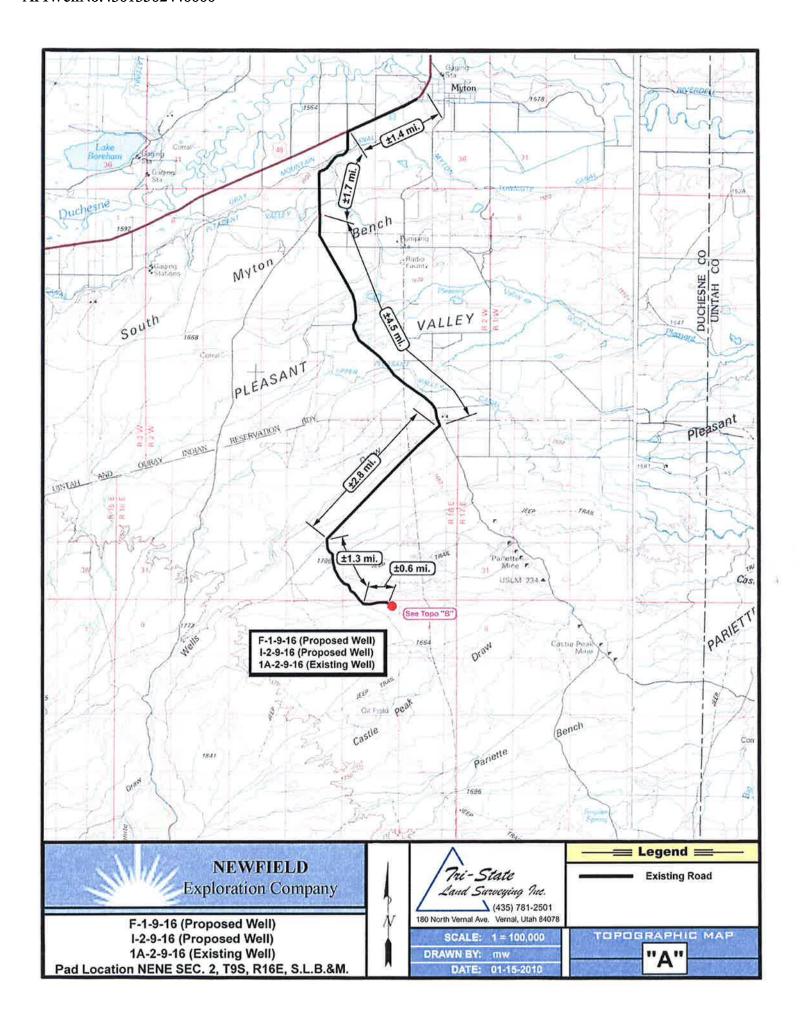
#### 10. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS:

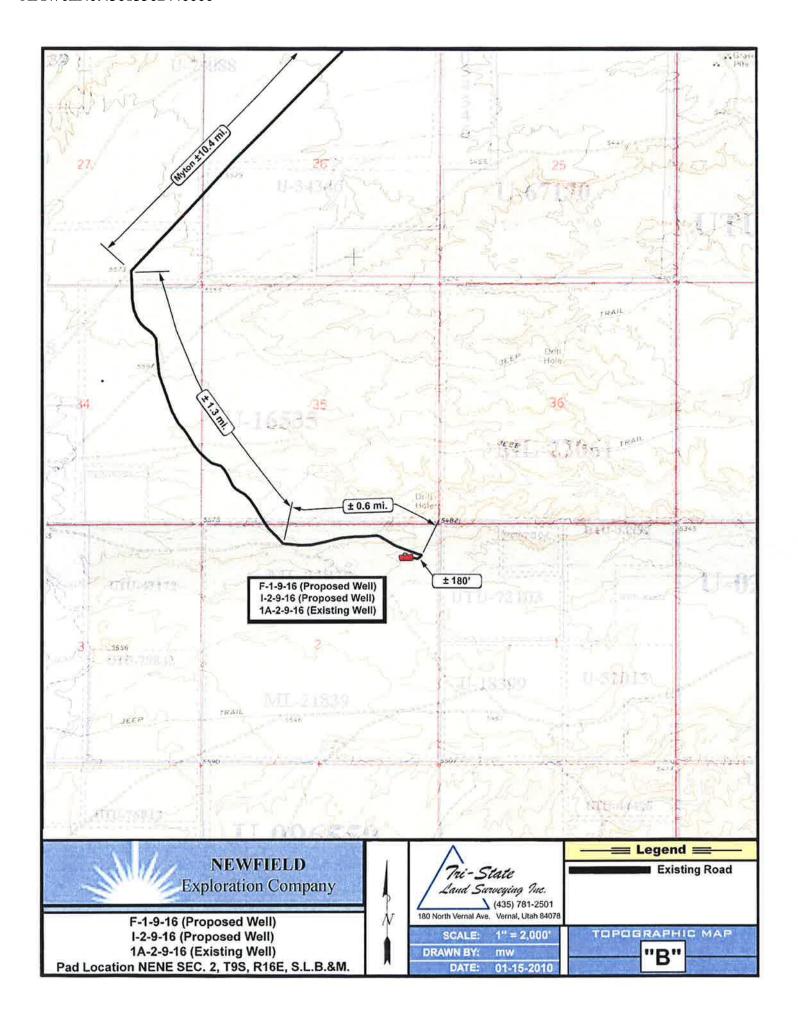
It is anticipated that the drilling operations will commence the second quarter of 2010, and take approximately seven (7) days from spud to rig release.

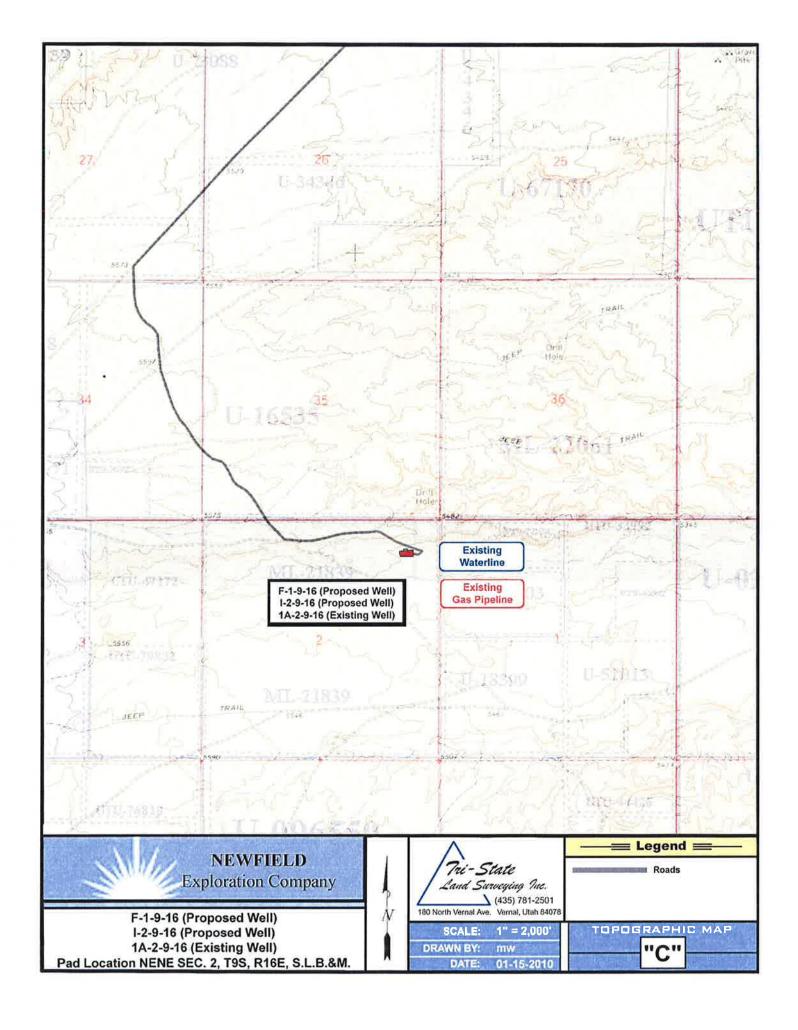
**2-M SYSTEM**Blowout Prevention Equipment Systems

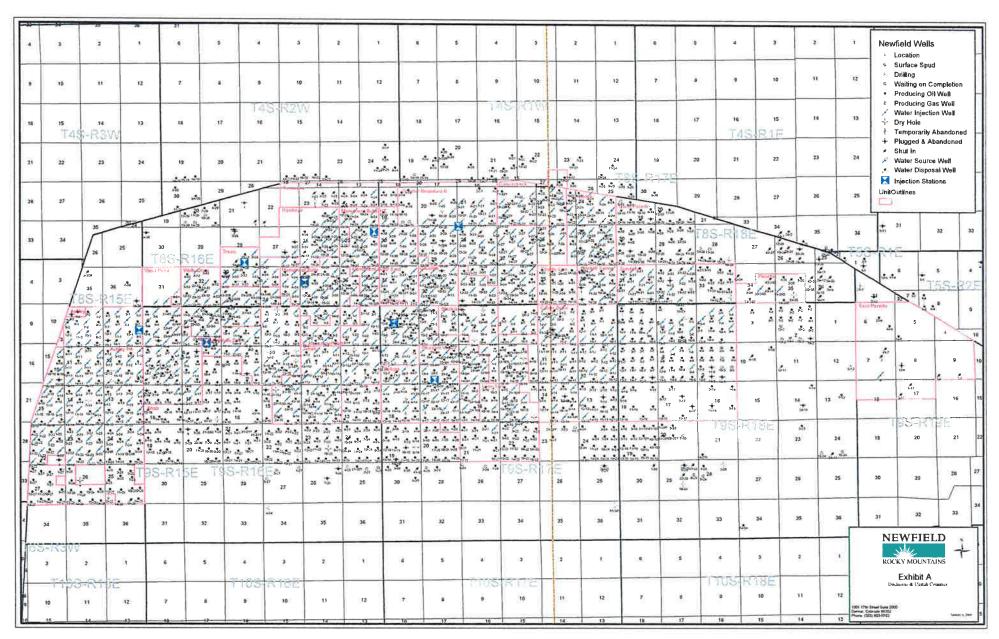


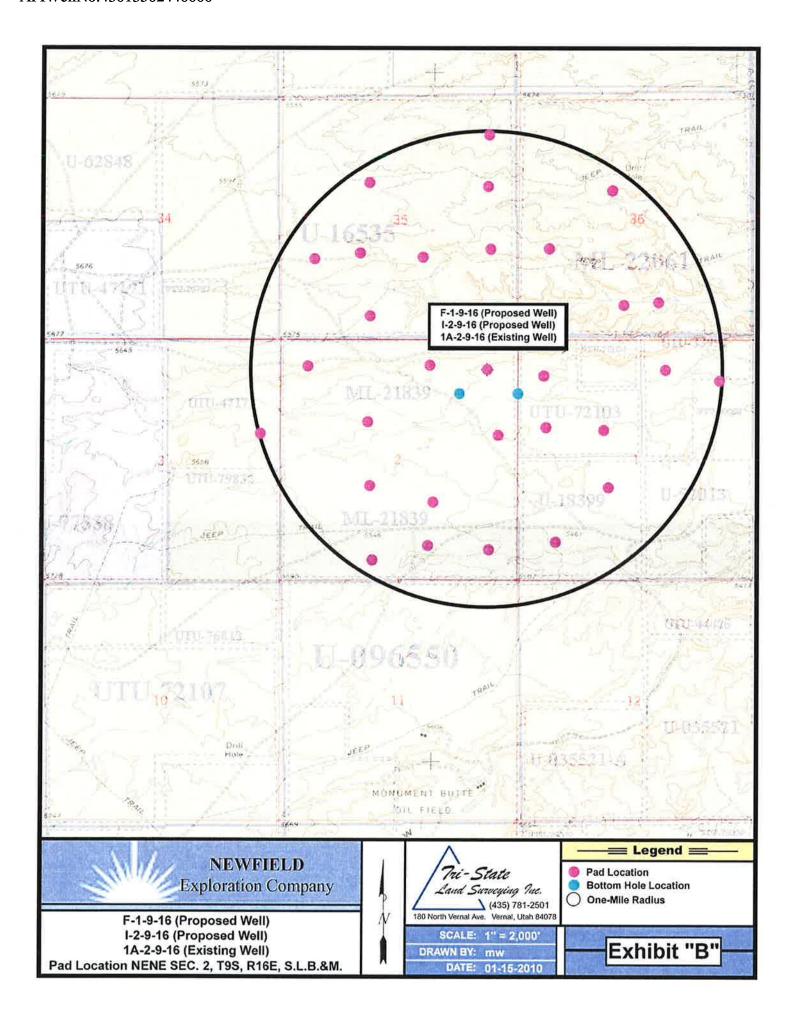
**EXHIBIT C** 











Ten Point Well Program & Thirteen Point Well Program Page 5 of 9

### NEWFIELD PRODUCTION COMPANY GREATER MONUMENT BUTTE I-2-9-16 AT SURFACE: NE/NE SECTION 2, T9S, R16E DUCHESNE COUNTY, UTAH

#### THIRTEEN POINT SURFACE PROGRAM

#### 1. EXISTING ROADS

See attached Topographic Map "A"

To reach Newfield Production Company well location site Greater Monument Butte I-2-9-16 located in the NE ¼ NE ¼ Section 2, T9S, R16E, S.L.B. & M., Duchesne County, Utah:

Proceed in a southwesterly direction out of Myton, Utah along Highway 40 approximately  $1.4 \pm$  miles to the junction of this highway and Utah State Highway 53; proceed southeasterly approximately 6.2 miles  $\pm$  to its junction with an existing road to the southwest; proceed southwesterly approximately 2.8 miles  $\pm$  to its junction with an existing road to the southeast; proceed southeasterly approximately 1.3 miles  $\pm$  to its junction with an existing road to the east; proceed easterly approximately 0.6 miles  $\pm$  to it's junction with the beginning of the access road to the existing 1A-2-9-16 well location.

The highways mentioned in the foregoing paragraph are bituminous surfaced roads to the point where Highway 216 exists to the South, thereafter the roads are constructed with existing materials and gravel. The highways are maintained by Utah State road crews. All other roads are maintained by County crews.

The aforementioned dirt oil field service roads and other roads in the vicinity are constructed out of existing native materials that are prevalent to the existing area they are located in and range from clays to a sandy-clay shale material.

The roads for access during the drilling, completion and production phase will be maintained at the standards required by the State of Utah, or other controlling agencies. This maintenance will consist of some minor grader work for smoothing road surfaces and for snow removal.

#### 2. PLANNED ACCESS ROAD

The is no proposed access road for this location. The proposed well will be drilled off of the existing 1A-2-9-16 well pad. See attached **Topographic Map "B"**.

There will be no new gates or cattle guards required.

### 3. LOCATION OF EXISTING WELLS

Refer to **EXHIBIT B**.

### 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

The proposed well will be drilled directionally off of the existing 1A-2-9-16 well pad. There will be a pumping unit and a short flow line added to the existing tank battery for the proposed I-2-9-16.

It is anticipated that this well will be a producing oil well.

Ten Point Well Program & Thirteen Point Well Program Page 6 of 9

There are no existing facilities that will be used by this well.

Upon construction of a tank battery, the well pad will be surrounded by a dike of sufficient capacity to contain at minimum 110% of the largest tank volume within the facility battery.

Tank batteries will be built to State specifications.

All permanent (on site for six (6) months or longer) structures, constructed or installed (including pumping units), will be painted a flat, non-reflective, earth tone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six months of installation.

### 5. LOCATION AND TYPE OF WATER SUPPLY

Newfield Production will transport water by truck for drilling purposes from the following water sources:

Johnson Water District Water Right: 43-7478

Neil Moon Pond

Water Right: 43-11787

Maurice Harvey Pond Water Right: 47-1358

Newfield Collector Well

Water Right: 41-3530 (A30414DV, contracted with the Duchesne County Conservancy District).

There will be no water well drilled at this site.

### 6. SOURCE OF CONSTRUCTION MATERIALS

The proposed Greater Monument Butte I-2-9-16 will be drilled off of the existing 1A-2-9-16 well pad. No additional surface disturbance will be required for this location.

### 7. METHODS FOR HANDLING WASTE DISPOSAL

A small reserve pit (90' x 40' x 8' deep, or less) will be constructed from native soil and clay materials. The reserve pit will receive the processed drill cutting (wet sand, shale & rock) removed from the wellbore. Any drilling fluids, which do accumulate in the pit as a result of shale-shaker carryover, cleaning of the sand trap, etc., will be promptly reclaimed. All drilling fluids will be fresh water based, typically containing Total Dissolved Solids of less than 3000 PPM. No potassium chloride, chromates, trash, debris, nor any other substance deemed hazardous will be placed in this pit. Therefore, it is proposed that no synthetic liner be required in the reserve pit. However, if upon constructing the pit there is insufficient fine clay and silt present, a liner will be used for the purpose of reducing water loss through percolation.

Newfield requests approval that a flare pit not be constructed or utilized on this location.

A portable toilet will be provided for human waste.

A trash basket will be provided for garbage (trash) and hauled away to an approved disposal site at the completion of the drilling activities.

Ten Point Well Program & Thirteen Point Well Program Page 7 of 9

Immediately upon first production, all produced water will be confined to a steel storage tank. If the production water meets quality guidelines, it is transported to the Ashley, Monument Butte, Jonah, and Beluga water injection facilities by company or contract trucks. Subsequently, the produced water is injected into approved Class II wells to enhance Newfield's secondary recovery project.

Water not meeting quality criteria, is disposed at Newfield's Pariette #4 disposal well (Sec. 7, T9S R19E) or at State of Utah approved surface disposal facilities.

#### 8. ANCILLARY FACILITIES:

There are no ancillary facilities planned for at the present time and none foreseen in the near future.

### 9. **WELL SITE LAYOUT:**

See attached Location Layout Sheet.

### Fencing Requirements

All pits will be fenced according to the following minimum standards:

- a) A 39-inch net wire shall be used with at least one strand of barbed wire on top of the net.
- b) The net wire shall be no more than two (2) inches above the ground. The barbed wire shall be three (3) inches above the net wire. Total height of the fence shall be at least forty-two (42) inches.
- c) Corner posts shall be centered and/or braced in such a manner to keep tight at all times
- d) Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than sixteen (16) feet.
- e) All wire shall be stretched, by using a stretching device, before it is attached to the corner posts.

The reserve pit fencing will be on three (3) sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

### 10. PLANS FOR RESTORATION OF SURFACE:

#### a) Producing Location

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, material, trash and junk not required for production.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximated natural contours. Weather permitting, the reserve pit will be reclaimed within one hundred twenty (120) days from the date of well completion. Before any dirt work takes place, the reserve pit must have all fluids and hydrocarbons removed.

Ten Point Well Program & Thirteen Point Well Program Page 8 of 9

#### b) Dry Hole Abandoned Location

At such time as the well is plugged and abandoned, the operator shall submit a subsequent report of abandonment and the State of Utah will attach the appropriate surface rehabilitation conditions of approval.

### 11. SURFACE OWNERSHIP: State of Utah

#### 12. OTHER ADDITIONAL INFORMATION:

- a) Newfield Production Company is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, Newfield is to immediately stop work that might further disturb such materials and contact the Authorized Officer.
- b) Newfield Production will control noxious weeds along rights-of-way for roads, pipelines, well sites or other applicable facilities. On State administered land it is required that a Pesticide Use Proposal shall be submitted and given approval prior to the application of herbicides or other possible hazardous chemicals.
- c) Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on State Lands after the conclusion of drilling operations or at any other time without State authorization. However, if State authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities.

### **Additional Surface Stipulations**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws and regulations, Onshore Oil and Gas Orders, the approved plan of operations and any applicable Notice to Lessees. A copy of these conditions will be furnished to the field representative to ensure compliance.

#### **Hazardous Material Declaration**

Newfield Production Company guarantees that during the drilling and completion of the Greater Monument Butte I-2-9-16, Newfield will not use, produce, store, transport or dispose 10,000# annually of any of the hazardous chemicals contained in the Environmental Protection Agency's consolidated list of chemicals subject to reporting under Title III Superfund Amendments and Reauthorization Act (SARA) of 1986. Newfield also guarantees that during the drilling and completion of the Greater Monument Butte I-2-9-16 Newfield will use, produce, store, transport or dispose less than the threshold planning quantity (T.P.Q.) of any extremely hazardous substances as defined in 40 CFR 355.

A complete copy of the approved APD, if applicable, shall be on location during the construction of the location and drilling activities.

Newfield Production Company or a contractor employed by Newfield Production shall contact the State office at (801) 722-3417, 48 hours prior to construction activities.

The State office shall be notified upon site completion prior to moving on the drilling rig.

### 13. LESSEE'S OR OPERATOR'S REPRENSENTATIVE AND CERTIFICATION:

Ten Point Well Program & Thirteen Point Well Program Page 9 of 9

#### Representative

Name:

Tim Eaton

Address:

Newfield Production Company

Route 3, Box 3630

Myton, UT 84052

Telephone:

(435) 646-3721

### Certification

Please be advised that Newfield Production Company is considered to be the operator of well #I-2-9-16, NE/NE Section 2, T9S, R16E, LEASE #ML-21839, Duchesne County, Utah and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Bond #B001834.

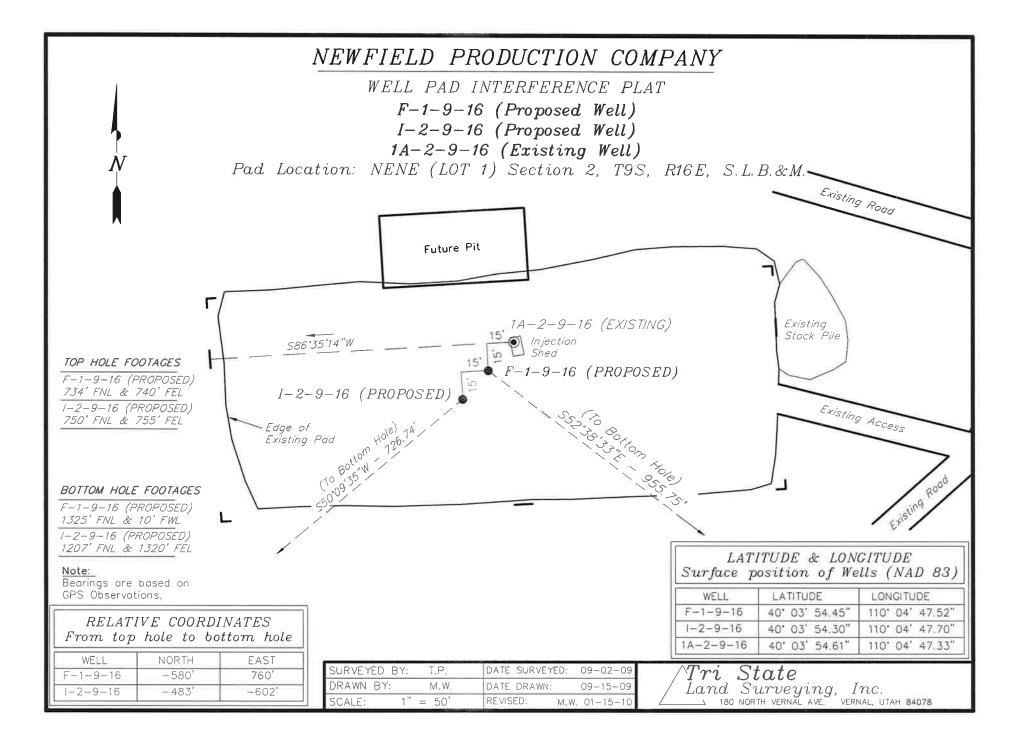
I hereby certify that the proposed drill site and access route have been inspected, and I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Newfield Production Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of the 18 U.S.C. 1001 for the filing of a false statement.

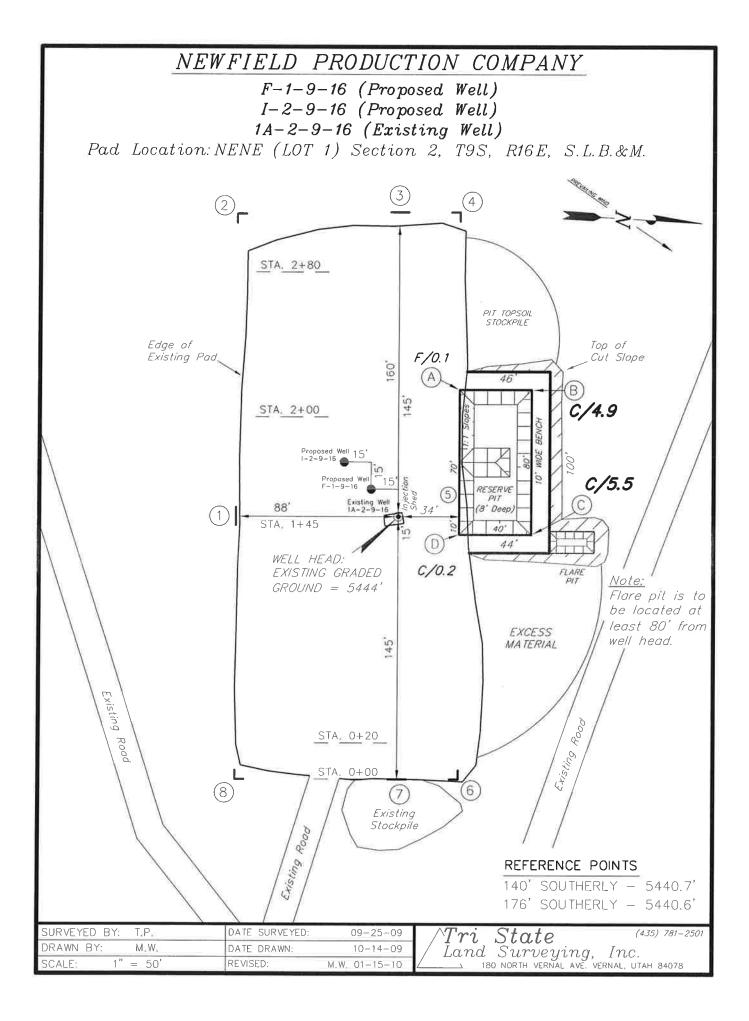
1/21/09

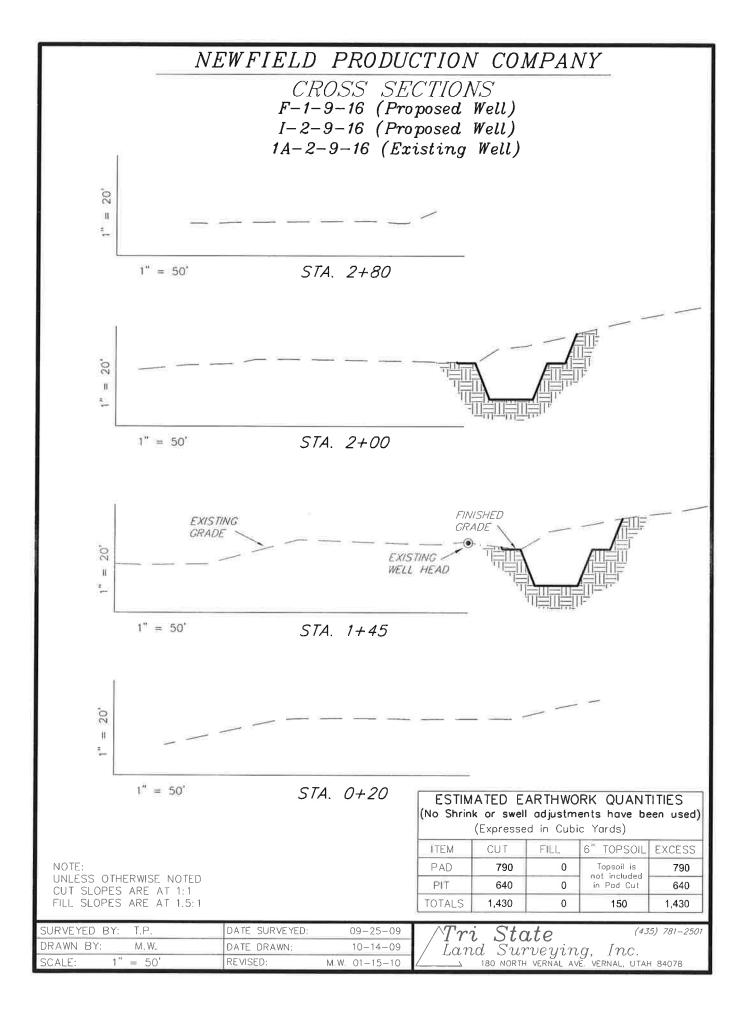
Date

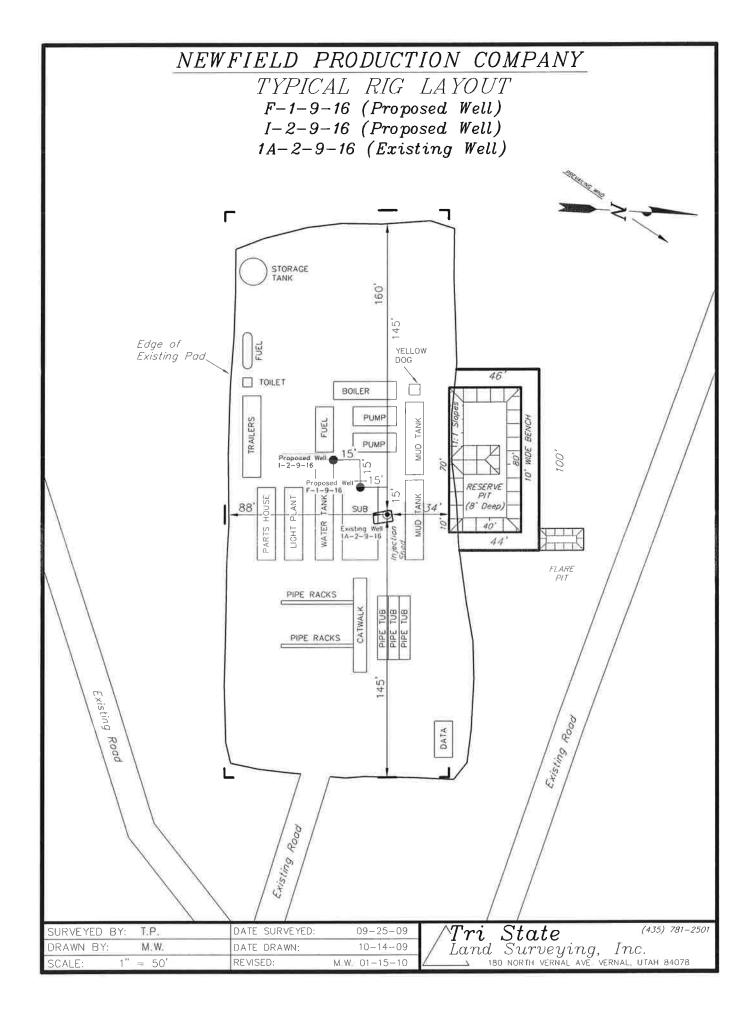
Mandie Crozie

Regulatory Specialist
Newfield Production Company









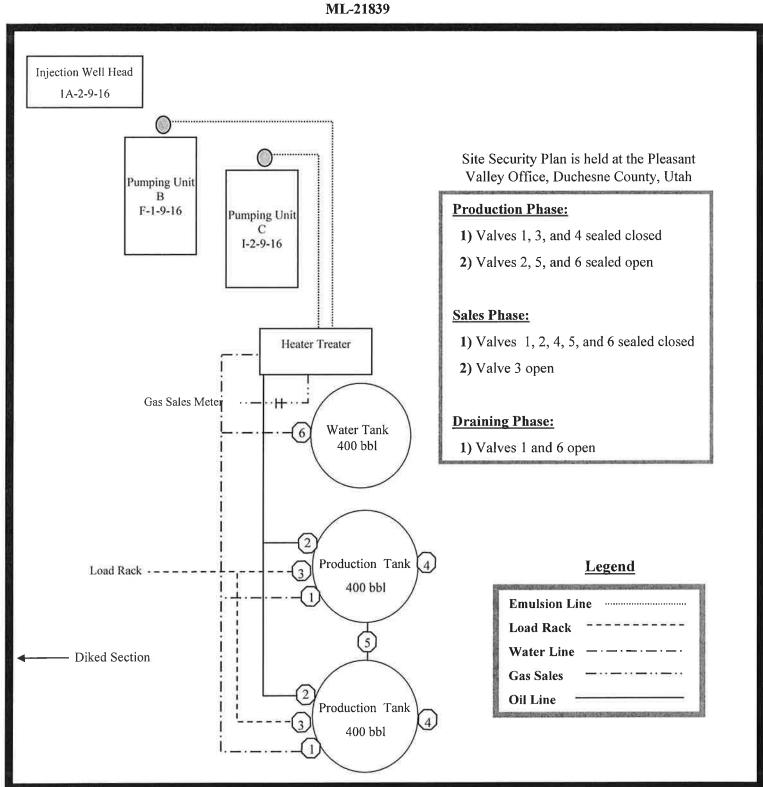
# **Newfield Production Company Proposed Site Facility Diagram**

**Greater Monument Butte I-2-9-16** 

From the 1A-2-9-16 Location

NE/NE (Lot #1) Sec. 2 T9S, R16E

**Duchesne County, Utah** 





2335

January 22, 2010

State of Utah, Division of Oil, Gas and Mining ATTN: Diana Mason P.O. Box 145801 Salt Lake City, UT 84114-5801

RE:

**Directional Drilling** 

Greater Monument Butte I-2-9-16
Greater Monument Butte (Green River) Unit

Surface Hole:

T9S-R16E Section 2: NENE (ML-21839)

750' FNL 755' FEL

At Target:

T9S-R16E Section 2: NENE (ML-21839)

1207' FNL 1320' FEL

Duchesne County, Utah

Dear Ms. Mason;

Pursuant to the filing by Newfield Production Company (NPC) of an Application for Permit to Drill the above referenced well dated 1/21/10, a copy of which is attached, and in accordance with Oil and Gas Conservation Rule R649-3-11, NPC hereby submits this letter as notice of our intention to directionally drill this well.

The surface hole and target locations of this well are both within the boundaries of the Greater Monument Butte Unit (UTU-87538X), of which Newfield certifies that it is the operator. Further, Newfield Certifies that all lands within 460 feet of the entire directional well bore are within the Greater Monument Butte Unit.

NPC is permitting this well as a directional well in order to mitigate surface disturbance by utilizing preexiting roads and pipelines.

NPC hereby requests our application for permit to drill be granted pursuant to R649-3-11. If you have any questions or require further information, please contact the undersigned at 303-383-4197 or by email at sgillespie@newfield.com. Your consideration in this matter is greatly appreciated.

Sincerely.

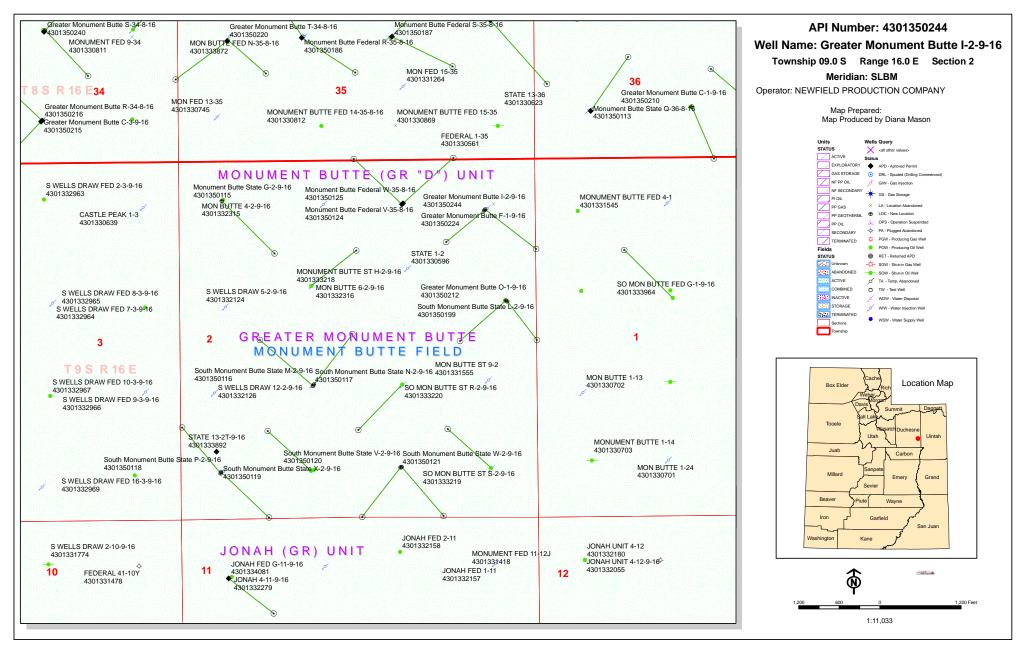
Newfield Production Company

Shane Gillespie Land Associate

**RECEIVED** 

JAN 28 2010

DIV. OF OIL, GAS & MINING



# **United States Department of the Interior**

### BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

February 10, 2010

#### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Greater Monument

Butte Unit, Duchesne and Uintah Counties,

Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following vertical and horizontal wells are planned for calendar year 2010 within the Greater Monument Butte Unit, Duchesne and Uintah Counties, Utah.

API# WELL NAME LOCATION (Proposed PZ GREEN RIVER) 43-013-34222 GMBBU 14-36-8-15H Sec 36 T08S R15E 0502 FSL 2096 FWL Lateral 1 Sec 36 T08S R15E 0386 FNL 0824 FEL 43-013-50242 GMBU 14-14T-9-15H Sec 14 T09S R15E 0510 FSL 2307 FWL Lateral 1 Sec 14 T09S R15E 0283 FNL 1150 FEL 43-013-50243 GMBU 15-22-9-15H Sec 22 T09S R15E 0661 FSL 1978 FEL Lateral 1 Sec 15 T09S R15E 0172 FSL 0375 FEL 43-013-50244 GMBU I-2-9-16 Sec 02 T09S R16E 0750 FNL 0755 FEL BHL Sec 02 T09S R16E 1207 FNL 1320 FEL 43-013-50248 GMBU E-1-9-16 Sec 01 T09S R16E 0787 FNL 0628 FWL BHL Sec 01 T09S R16E 0010 FNL 0010 FWL 43-013-50249 GMBU D-1-9-16 Sec 01 T09S R16E 0775 FNL 0645 FWL BHL Sec 01 T09S R16E 0010 FNL 1395 FWL 43-013-50250 GMBU M-1-9-16 Sec 01 T09S R16E 1998 FSL 1974 FWL BHL Sec 01 T09S R16E 2630 FNL 2630 FEL 43-013-50251 GMBU N-1-9-16 Sec 01 T09S R16E 1965 FNL 0674 FWL

BHL Sec 01 T09S R16E 2635 FSL 1325 FWL

43-013-50252	GMBU	C-26-8-16	BHL	 	 R16E R16E		 	
43-013-50253	GMBU	A-11-9-16			 R16E R16E		 	
43-013-50254	GMBU	T-2-9-16	BHL		 R16E R16E		 	
43-013-50255	GMBU	F-2-9-16	BHL		R16E R16E			
43-013-50256	GMBU	0-2-9-16	BHL	 	 R16E R16E	_		
43-013-50257	GMBU	H-1-9-16	BHL	 	 R16E R16E		 	
43-013-50258	GMBU	R-26-8-16			 R16E R16E		 	

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Greater Monument Butte Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:2-10-10

From: Jim Davis

To: Bonner, Ed; Mason, Diana
CC: teaton@newfield.com
Date: 2/10/2010 12:05 PM
Subject: Newfield Approvals (5)

The following APDs have been approved by SITLA including arch and paleo clearance.

4301350209 Greater Monument Butte B-1-9-16 4301350210 Greater Monument Butte C-1-9-16 4301350211 Greater Monument Butte T-36-8-16 4301350212 Greater Monument Butte I-2-9-16 Greater Monument Butte O-1-9-16

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156

### BOPE REVIEW NEWFIELD PRODUCTION COMPANY r Monument Butte I-2-9-16 43013502440000

Well Name	NEWFIELD PROD	DUCTION COMPAN	IY Greater Monumer	nt Butte I-2-9-16 43
String	Surf	Prod		
Casing Size(")	8.625	5.500		
Setting Depth (TVD)	450	6205		
Previous Shoe Setting Depth (TVD)	0	450		
Max Mud Weight (ppg)	8.3	8.4		
BOPE Proposed (psi)	500	2000		
Casing Internal Yield (psi)	2950	4810		
Operators Max Anticipated Pressure (psi)	2689	8.3		

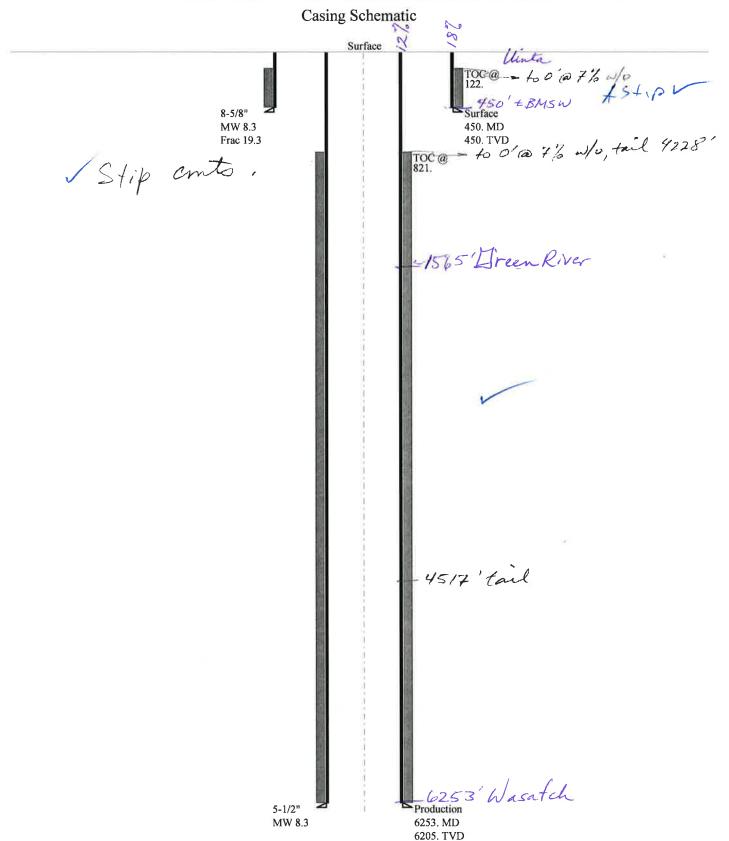
Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	194		
			ВОРЕ	Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	140	YES	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	95	YES	ОК
			*Can	Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth)=	95	NO	ОК
Required Casing/BOPE Te	est Pressure=	450	psi	
*Max Pressure Allowed @	Previous Casing Shoe=	0	psi *	*Assumes 1psi/ft frac gradient

Calculations	Prod String	5.500	"
Max BPH (psi)	.052*Setting Depth*MW=	2710	
			<b>BOPE</b> Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1965	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1345	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth)=	1444	NO Reasonable for area
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String	"
Max BHP (psi)	.052*Setting Depth*MW=	
		BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	NO
		*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth)=	NO
Required Casing/BOPE Test Pressure=		psi
*Max Pressure Allowed @ Previous Casing Shoe=		psi *Assumes 1psi/ft frac gradient

Calculations	String	"
Max BHP (psi)	.052*Setting Depth*MW=	
		<b>BOPE</b> Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	NO
		*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth)=	NO
Required Casing/BOPE Test Pressure=		psi
*Max Pressure Allowed @ Previous Casing Shoe=		psi *Assumes 1psi/ft frac gradient

## 43013502440000 Greater Monument Butte I-2-9-16



Well name:

43013502440000 Greater Monument Butte I-2-9-16

Operator:

**NEWFIELD PRODUCTION COMPANY** 

String type:

Surface

Project ID:

43-013-50244

Location:

**DUCHESNE** COUNTY

> Minimum design factors: **Environment:**

Collapse

Mud weight: 8.330 ppg Design is based on evacuated pipe.

Collapse: Design factor

1.125

H2S considered?

No Surface temperature: 74 °F 80 °F Bottom hole temperature:

Temperature gradient:

1.40 °F/100ft

Minimum section length:

100 ft

**Burst:** 

Tension:

8 Round STC:

8 Round LTC:

Design factor

1.00

1.80 (J) 1.70 (J)

1.60 (J)

1.50 (J) 1.50 (B) Cement top:

122 ft

<u>Burst</u>

Max anticipated surface

pressure: Internal gradient:

Design parameters:

396 psi

Calculated BHP

0.120 psi/ft 450 psi

No backup mud specified.

Buttress: Premium:

Body yield:

Tension is based on air weight. Neutral point: 394 ft Non-directional string.

Re subsequent strings: Next setting depth:

6,205 ft Next mud weight: 8.400 ppg Next setting BHP: 2,707 psi Fracture mud wt: 19.250 ppg

Fracture depth: Injection pressure:

450 ft 450 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	450	8.625	24.00	J-55	ST&C	450	450	7.972	2317
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	195	1370	7.035	450	2950	6.56	10.8	244	22.59 J

Prepared

Helen Sadik-Macdonald Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 15,2010 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 450 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

43013502440000 Greater Monument Butte I-2-9-16

Operator:

**NEWFIELD PRODUCTION COMPANY** 

String type:

Project ID:

Location:

Production

Design is based on evacuated pipe.

**DUCHESNE** COUNTY 43-013-50244

Design parameters: Mud weight:

Collapse

Minimum design factors:

Collapse:

Design factor 1.125 **Environment:** 

H2S considered? Surface temperature: No 74 °F

Bottom hole temperature:

161 °F

Temperature gradient: Minimum section length: 1.40 °F/100ft 100 ft

**Burst:** 

Design factor

1.00

1.80 (J)

Cement top:

821 ft

**Burst** 

Max anticipated surface

pressure: Internal gradient: 1,320 psi

8.330 ppg

Calculated BHP

0.220 psi/ft 2,685 psi

No backup mud specified.

Tension:

8 Round STC: 8 Round LTC:

Premium:

1.80 (J) 1.60 (J) Buttress: 1.50 (J) Body yield: 1.60 (B)

Tension is based on air weight. Neutral point: 5,464 ft

Directional Info - Build & Hold

Kick-off point 600 ft Departure at shoe: 727 ft Maximum dogleg: 1.5 °/100ft

7.74° Inclination at shoe:

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)	
1	6253	5.5	15.50	J-55	LT&C	6205	6253	4.825	22079	
Run Seq	Collapse Load (psi) 2685	Collapse Strength (psi) 4040	Collapse Design Factor 1.505	Burst Load (psi) 2685	Burst Strength (psi) 4810	Burst Design Factor 1.79	Tension Load (kips) 96.2	Tension Strength (kips) 217	Tension Design Factor 2.26 J	

Prepared

Helen Sadik-Macdonald Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 15,2010 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 6205 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

# **ON-SITE PREDRILL EVALUATION**

### Utah Division of Oil, Gas and Mining

**Operator** NEWFIELD PRODUCTION COMPANY

Well Name Greater Monument Butte I-2-9-16

API Number 43013502440000 APD No 2335 Field/Unit MONUMENT BUTTE

**Location: 1/4,1/4** NENE **Sec 2 Tw** 9.0S **Rng** 16.0E 750 FNL 755 FEL

GPS Coord (UTM) Surface Owner

#### **Participants**

Floyd Bartlett (DOGM), Tim Eaton and Brian Foote (Newfield Production Co.), Cory Miller and Tyson Reary (Tri State Land Surveying), Alex Hansen (Division of Wildlife Resources), Jim Davis (SITLA) and James Hereferd (Bureau Of Land Management).

#### Regional/Local Setting & Topography

Two additional oil wells (Greater Monument Butte I-2-9-16 and Greater Monument Butte F-1-9-16) are proposed to be drilled from the existing pad of the Monument Butte 1A-2-9-16 which is a water injection well. No significant changes to the previously disturbed area of the existing pad are planned. The existing pad appears to be stable and should be acceptable for drilling and operating the additional wells. The surface of the location and minerals are owned by SITLA. The wells are on a 20-acre spacing.

#### **Surface Use Plan**

**Current Surface Use** 

Grazing
Wildlfe Habitat

Existing Well Pad

New Road Miles Well Pad Src Const Material Surface Formation

0 Width 168 Length 305 Onsite UNTA

**Ancillary Facilities** N

#### Waste Management Plan Adequate?

#### **Environmental Parameters**

Affected Floodplains and/or Wetlands N

Flora / Fauna

Existing pad. Little new disturbance

**Soil Type and Characteristics** 

**Erosion Issues** 

**Sedimentation Issues** N

Site Stability Issues N

**Drainage Diverson Required?** N

Berm Required? Y

3/23/2010 Page 1

#### **Erosion Sedimentation Control Required?** N

Paleo Survey Run? Paleo Potental Observed? N Cultural Survey Run? Cultural Resources?

#### **Reserve Pit**

Site-Specific Factors	Site R	anking	
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)		0	
Dist. Nearest Municipal Well (ft)		0	
<b>Distance to Other Wells (feet)</b>		20	
Native Soil Type		10	
Fluid Type	Fresh Water	5	
Drill Cuttings		0	
<b>Annual Precipitation (inches)</b>		0	
Affected Populations			
<b>Presence Nearby Utility Conduits</b>		0	
	Final Score	40	1 Sensitivity Level

#### **Characteristics / Requirements**

A reserve pit will be re-dug near the original location on the north side of the pad. Its dimensions are 80' x 40' x 8' deep. A 16-mil liner and a sub-liner are required.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y

#### **Other Observations / Comments**

Evaluator	Date / Time
Floyd Bartlett	12/15/2009

3/23/2010 Page 2

3/23/2010

# **Application for Permit to Drill Statement of Basis**

Utah Division of Oil, Gas and Mining

APD No API WellNo Status Well Type Surf Owner CBM 2335 43013502440000 LOCKED OW S No

Operator NEWFIELD PRODUCTION COMPANY Surface Owner-APD

Well Name Greater Monument Butte I-2-9-16 Unit GMBU (GRRV)

Field MONUMENT BUTTE Type of Work DRILL

**Location** NENE 2 9S 16E S 750 FNL 755 FEL GPS Coord (UTM) 578527E 4435175N

#### **Geologic Statement of Basis**

Newfield proposes to set 350' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 450'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 2. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a major source of useable ground water. However, ground water in the Uinta Formation should be of sufficient quality and quantity for isolated domestic and agricultural use and should be protected. Surface casing should be extended to cover the base of the moderately saline ground water.

Brad Hill 2/9/2010
APD Evaluator Date / Time

#### **Surface Statement of Basis**

Two additional oil wells (Greater Monument Butte I-2-9-16 and Greater Monument Butte F-1-9-16) are proposed to be drilled from the existing pad of the Monument Butte 1A-2-9-16 which is a water injection well. No significant changes to the previously disturbed area of the existing pad are planned. The existing pad appears to be stable and should be acceptable for drilling and operating the additional wells. The surface of the location and minerals are owned by SITLA. The wells are on a 20-acre spacing.

Jim Davis of SITLA attended. He was in agreement with the proposal. SITLA is to be contacted for surface reclamation standards.

Alex Hansen of the Utah Division of Wildlife resources also attended the evaluation. He stated that no significant impacts to wildlife should occur.

Floyd Bartlett 12/15/2009
Onsite Evaluator Date / Time

#### **Conditions of Approval / Application for Permit to Drill**

**Category** Condition

Pits A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the

reserve pit.

Surface The well site shall be bermed to prevent fluids from leaving the pad.

Surface The reserve pit shall be fenced upon completion of drilling operations.

Page 1

### WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED:	2/2/2010		API NO. ASSIGNED:	43013502440000
WELL NAME:	Greater Monument	Butte I-2-9-16		
OPERATOR:	NEWFIELD PRODU	CTION COMPANY (N2695)	PHONE NUMBER:	435 646-4825
CONTACT:	Mandie Crozier			
PROPOSED LOCATION:	NENE 2 090S 160E	Ē	Permit Tech Review:	
SURFACE:	0750 FNL 0755 FEI	L	Engineering Review:	
воттом:	1207 FNL 1320 FEI	L	Geology Review:	
COUNTY:	DUCHESNE			
LATITUDE:	40.06507		LONGITUDE:	-110.07920
UTM SURF EASTINGS:	578527.00		NORTHINGS:	4435175.00
FIELD NAME:	MONUMENT BUTTE	<u> </u>		
LEASE TYPE:	3 - State			
LEASE NUMBER:	ML-21839	PROPOSED PRODUCING FORM	IATION(S): GREEN RIVER	₹
SURFACE OWNER:	3 - State		COALBED METHANE:	NO
RECEIVED AND/OR REVIEW	VED:	LOCATION AND SITI	NG:	
<b></b> ✓ PLAT		R649-2-3.		
<b>▶ Bond:</b> STATE/FEE - B001	1834	Unit: GMBU (GRRV	)	
Potash		R649-3-2. Gener	al	
Oil Shale 190-5				
Oil Shale 190-3		R649-3-3. Excep	tion	
Oil Shale 190-13		Drilling Unit		
<b>✓</b> Water Permit: 43-7478		Board Cause No	o: Cause 213-11	
RDCC Review:		Effective Date:	11/30/2009	
Fee Surface Agreemen	t	Siting: Suspend	ds General Siting	
Intent to Commingle		<b>r</b> R649-3-11. Dire	ctional Drill	
Commingling Approved				
Comments: Presite Cor	mpleted			
<b>Stipulations:</b> 5 - Staten	nent of Basis - bhill			

5 - Statement of Basis - bhill 15 - Directional - dmason 25 - Surface Casing - ddoucet 27 - Other - bhill

API Well No: 43013502440000



## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

#### **Permit To Drill**

\*\*\*\*\*

Well Name: Greater Monument Butte I-2-9-16

**API Well Number:** 43013502440000

Lease Number: ML-21839 Surface Owner: STATE Approval Date: 3/23/2010

#### **Issued to:**

NEWFIELD PRODUCTION COMPANY, Rt 3 Box 3630, Myton, UT 84052

#### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 213-11. The expected producing formation or pool is the GREEN RIVER Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Production casing cement shall be brought up to or above the top of the unitized interval for the Greater Monument Butte Unit (Cause No. 213-11).

#### **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well contact Carol Daniels OR
- submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

#### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office
  - 801-733-0983 after office hours
- Dan Jarvis 801-538-5338 office
  - 801-231-8956 after office hours

#### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

**Approved By:** 

For Gil Hunt Associate Director, Oil & Gas

#### Soud BLM - Vernal Field Office - Notification Form

Operator Newfield Exploration

Rig Name/# Ross #21

Submitted By Mitch Benson

Phone Number (435) 823-5885

Name/Numer Greater Monument Butte I-2-9-16

Qtr/Qrt NE/NE Section 2

Township 9S

Range 16E

Lease Serial Number ML-21839

API Number 43-013-50244

<u>Spud Notice</u> – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 6/29/2010 9:00:00 AM

Casing - Please report time casing run starts, not cementing times.

X Surface Casing

**Intermediate** 

**Production Casing** 

Liner

Other

Date/Time 6/29/2010 4:00:00 PM

## Remarks:

#### STATE OF UTAH

DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: UTAH STATE ML-21839
SUNDRY NOTICES AND REPORTS ON WE	6 IF INDIAN ALLOTTEE OF TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole dep wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such propo	th, reenter plugged  7. UNIT or CA AGREEMENT NAME:  GMBU
TVDE OF WELL	8. WELL NAME and NUMBER:
OIL WELL GAS WELL OTHER	MON BUTTE I-2-9-16
2. NAME OF OPERATOR:	9. API NUMBER;
NEWFIELD PRODUCTION COMPANY	4301350244
3. ADDRESS OF OPERATOR: PHONE	NUMBER 10. FIELD AND POOL, OR WILDCAT:
Route 3 Box 3630 CITY Myton STATE UT ZIP 84052 435.6	46.3721 GREATER MB UNIT
4. LOCATION OF WELL: FOOTAGES AT SURFACE:	COUNTY: DUCHESNE
OTR/OTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: , 2, T9S, R16E	STATE: UT
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NO	OTICE, REPORT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF	ACTION
ACIDIZE DEEPEN	REPERFORATE CURRENT FORMATION
→ U NOTICE OF INTENT	SIDETRACK TO REPAIR WELL
	_
Approximate date work will CASING REPAIR NEW CONSTRUCTION	
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING PLUG AND ABANDO	VENT OR FLAIR
SUBSEQUENT REPORT CHANGE WELL NAME PLUGBACK	WATER DISPOSAL
(Submit Original Form Only)  CHANGE WELL STATUS  PRODUCTION (STAR	T/STOP) WATER SHUT-OFF
Date of Work Completion: COMMINGLE PRODUCING FORMATIONS RECLAMATION OF W	ZELL SITE X OTHER: - Spud Notice
07/07/2010 CONVERT WELL TYPE RECOMPLETE - DIFF.	ERENT FORMATION
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details included On 6-29-10 MIRU ROSS spud rig #21. Drill 490' of 12 1/4" hole with air mist. TIH W 7-22-10 Cement with 240 sks of Class "G" w/ 2% CaCL+ 1/4# Cello Flake. Mixed & to pit.	//11 Jt's 8 5/8" J-55 24# csgn. Set @ 488.9'. On
ri.	
- f	
<u></u>	
NAME (PLEASE PRINT) Xabier Lasa TITLE_	Drilling Foreman
V /	
SIGNATURE AND DATE	07/07/2010

(This space for State use only)

RECEIVED JUL 1 2 2010

### **NEWFIELD PRODUCTION COMPANY - CASING & CEMENT REPORT**

			8 5/8"	CASING SET A	т	488.9	_		
LAST CASING	14	SET AT	6		OPERATO	R	Newfield	Exploration	Company
DATUM					WELL	MON BU	TTE I-2-9-1	6	
DATUM TO CUT	OFF CASI	NG	13		FIELD/PRO	OSPECT _	Monumer	t Butte	
DATUM TO BRA	DENHEAD	FLANGE	13		CONTRAC	TOR & RIC	<u> </u>	Ross Rig #2	1
TD DRILLER	490	LOGG	ER						
HOLE SIZE	12 1/4"								
							_		
LOG OF CASING	G STRING:					Ι			
PIECES	OD	ITEM - M	AKE - DESC	RIPTION	WT / FT	GRD	THREAD	CONDT	LENGTH
11		Well Head					<u> </u>	A	0.95
11	8 5/8"	ST&C Casi	ng (43.2' sh	oe jt)	24	J-55	STC	A	475.05
11	<u> </u>	Guide Sho	e					A	0.9
									,
CASING INVEN	TORY BAL.		FEET	JTS	TOTAL LE	NGTH OF	STRING		476.9
TOTAL LENGTH	OF STRIN	G	476.9	11	LESS CUT	OFF PIEC	E		1
LESS NON CSG	G. ITEMS		1.85		PLUS DAT	UM TO T/0	CUT OFF CS	G	13
PLUS FULL JTS	LEFT OU	٢	0		CASING S	ET DEPTH	1		488.90
	TOTAL		475.05	11	$\Box_{\gamma}$				
TOTAL CSG. DE	EL. (W/O TH	HRDS)	475.05	11	$ ] \}                                  $	ARE			
	TIMING								
BEGIN RUN CS	G.	Spud	8:00 AM	6/29/2010		RC THRU J	ОВ	Yes	
CSG. IN HOLE			4:00 PM	6/29/2010	Bbls CMT	CIRC TO S	SURFACE	8	
BEGIN CIRC			12:25 PM	7/2/2010	RECIPRO	CATED PIF	No		
BEGIN PUMP C	MT		12:36 PM	7/2/2010					

12:49 PM

12:57 PM

BEGIN DSPL. CMT

PLUG DOWN

7/2/2010

7/2/2010

BUMPED PLUG TO \_\_\_\_\_\_346

CEMENT USED		CEM	ENT COMPANY-	BJ Services
STAGE	# SX	CEM	ENT TYPE & ADDITIVE	S
1	240	Class "G" + 2% CaCl2 + 0.25#/sk	Cello Flake at 15.8 ppg w/ 1.	17 yield.
			· · · · · · · · · · · · · · · · · · ·	
L	<u> </u>			
	<u> </u>			
		HER PLACEMENT		SHOW MAKE & SPACING
Middle of first,	top of seco	ond, and third for a total of	three.	
COMPANY REP	PRESENTA	TIVE Mitch Benson		DATE 7/2/2010

OPERATOR: NEWFIELD PRODUCTION COMPANY

ADDRESS: RT. 3 BOX 3630

MYTON,	UT	84052	

OPERATOR ACCT. NO. N2695

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	T		Maria	(00			
İ		V		GREATER BOUNDARY II	00	SC	TP	LOCATION RG	COUNTY	SPUD DATE	EFFECTIVE DATE
В	99999	17400	4301350126	FED R-21-8-17							UNIE
WELL 1	COMMENTS:	1	-1001000120	FCD R-21-8-17	NWSE	21	88	17E	DUCHESNE	6/29/2010	17/26/10
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		V		GREATER	QQ	sc 1	TP	RG	COUNTY	DATE	EFFECTIVE DATE
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			***************************************	MONOMENT BOTTE F-1-9-16	NENE	1	98	16E	DUCHESNE	6/30/2010	7/20/10
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ACTION CODE	CURRENT ENTITY NO.	NEW	API NUMBER			WX	1 (C	9			
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		V		GREATER MONUMENT				775	COUNTY	DATE	4., 20.11
В	99999	17400	4301350244	BUTTE I-2-9-16	NENE	أخا	00	40-			ا بساسنا
					INCINE	2	_9\$	16E	DUCHESNE	6/29/2010	7/36/10
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WELL 5 C	Omments:										
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CODE	ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME			WELLL	OCATION		SPUD	EFFECTIVE
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18511 5 0	244454						-				
WELL 5 CO	JIMMENTS:					·····					
										$\circ$	
ACTION C	ODES (See Instructions on back	of form)									
A- 11	new antity for new well (single v	vell only)								1 1	1
B- 1	vell to existing entity (group or u	init well)		RECEIVED							(
D- W	om one existing entity to anothe reli from one existing entity to a	r existing entity						-	Signature	V //	Jentri Park
	er (expinin in comments section			JUL 1 2 2010				_	Signature		

NOTE: Use COMMENT section to explain why each Action Code was selected.

DIV. OF OIL, GAS & MINING

Production Clerk

07/01/10

Date

#### STATE OF UTAH

(This space for State use only)

	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING							
SUNDRY	NOTICES AND REPO	ORTS ON WELLS	UTAH STATE ML-21839  6. IF INDIAN, ALLOTTEE OR TRIBE NAME:					
Do not use this form for proposals to dri	Il new wells, significantly deepen existing wells be al laterals. Use APPLICATION FOR PERMIT TO	clow current bottom-hole depth, reenter plugged  DRILL form for such proposals.	7. UNIT or CA AGREEMENT NAME: GMBU					
F TYPE OF WELL: OIL WELL			8. WELL NAME and NUMBER: MON BUTTE I-2-9-16					
2. NAME OF OPERATOR:			9. API NUMBER:					
NEWFIELD PRODUCTION COM	PANY		4301350244					
3. ADDRESS OF OPERATOR:		PHONE NUMBER	10. FIELD AND POOL, OR WILDCAT:					
Route 3 Box 3630	CITY Myton STATE UT	ZIP 84052 435.646.3721	GREATER MB UNIT					
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 0750	FNL 0755 FEL		COUNTY: DUCHESNE					
OTR/OTR. SECTION. TOWNSHIP. RANGE, I	MERIDIAN: , 2, T9S, R16E		STATE: UT					
CHECK APPROP	PRIATE BOXES TO INDICATI	E NATURE OF NOTICE, REP	ORT, OR OTHER DATA					
TYPE OF SUBMISSION		TYPE OF ACTION						
	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION					
NOTICE OF INTENT (Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL					
	CASING REPAIR	NEW CONSTRUCTION	TEMPORARITLY ABANDON					
Approximate date work will								
	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR					
	CHANGE TUBING	PLUG AND ABANDON	VENT OR FLAIR					
SUBSEQUENT REPORT	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL					
(Submit Original Form Only)	CHANGE WELL STATUS	PRODUCTION (START/STOP)	WATER SHUT-OFF					
Date of Work Completion:	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	OTHER: - Weekly Status Report					
08/03/2010	CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMATION						
	MPLETED OPERATIONS. Clearly show a scompleted on 08-03-10, attached i		volumes, etc.					
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#								
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antai								
25. 								
N								
NAME (PLEASE PRINT) Lucy Chavez-N	aunoto	TITLE Administrative As	sistant					
NAME (PLEASE PRINT) Lucy Chavez-N								
SIGNATURE Steen Co	T/pue	DATE 08/04/2010						

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#### **Daily Activity Report**

Format For Sundry
MON BUTTE I-2-9-16
5/1/2010 To 9/30/2010

7/21/2010 Day: 1

Completion

Rigless on 7/21/2010 - Ran CBL & shot 1st stage - Install 5m frac head. NU 6" 5K Cameron BOP. RU H/O truck & pressure test casing, blind rams, frac head, csg & casing valves to 4500 psi. RU Perforators LLC WLT w/ mast & run CBL under pressure. WLTD @ 6168' & cement top @ 104'. Perforate stage #1, CP4 sds @ 5901-04', CP2 sds @ 5806-08', CP1 sds @ 5756-61' & CP.5 sds 5713-15' w/ 3 1/8" Port plug guns ( 11 gram .36" EH 16.82" pen) w/ 3 spf for total of 36 shots. 147 BWTR. SWIFN.

Daily Cost: \$0

**Cumulative Cost:** \$12,616

#### 7/26/2010 Day: 2

Completion

Rigless on 7/26/2010 - Frac well. - Stage #4; RU WLT. RIH w/ frac plug & perf guns. Set plug @ 4980'. Perferate D1 sds @ 4875-80' w/ 3 spf for total of 15 shots. RU BJ & open well w/ 1820 psi on casing. Perfs broke down @ 2530 psi back to 2465 psi w/ 3 bbls @ 2 bpm. Pump 30 gals of Techni Hib chemical @ 4% by volume. Frac w/ 20,460#'s of 20/40 sand in 324 bbls of Lightning 17 frac fluid. Treated @ ave pressure of 2727 @ ave rate of 27 bpm w/ 6 ppg of sand. Spot 12 bbls of 15% HCL acid in flush for next stage. ISIP was 2002 w/ .84FG. 5 min was 1842. 10 min was 1821. 15 min was 1810. Leave pressure on well. 1597 bbls EWTR -Stage #1; RU BJ Services "Ram Head" frac flange. RU BJ & open well w/ 392 psi on casing. Perfs broke down @ 2088 psi back to 2000 psi w/ 4 bbls @ 4 bpm. ISIP was 1711 w/ .73FG. 1 min was 1006. 4 min was 904. Pump 6 bbls of 15% HCL acid ( had 700 psi drop when hit perfs). Pump 30 gals of Techni Hib chemical @ 4% by volume. Frac w/ 39,885#'s of 20/40 sand in 508 bbls of Lightning 17 frac fluid. Treated @ ave pressure of 2298 @ ave rate of 40 bpm w/ 6 ppg of sand. Spot 12 bbls of 15% HCL acid in flush for next stage. ISIP was 1963 w/ .77FG. 5 min was 1755. 10 min was 1695. 15 min was 1653. Leave pressure on well. 655 bbls EWTR. - Stage #2; RU Perforators LLC WLT, crane & lubricator. RIH w/ Weatherford 5-1/2" (6K) composite flow through frac plug & perf guns. Set plug @ 5520'. Perferate A3 sds @ 5416-21', 5395-99' w/ 3-1/8" Port Guns (11 gram, .36"EH, 120°, 16.82"pen) w/ 3 spf for total of 27 shots. RU BJ & open well w/ 1535 psi on casing. Perfs broke down @ 2277 psi back to 1819 psi w/ 2 bbls @ 3 bpm. Pump 30 gals of Techni Hib chemical @ 4% by volume. Frac w/ 19,331#'s of 20/40 sand in 330 bbls of Lightning 17 frac fluid. Treated @ ave pressure of 2889 @ ave rate of 38 bpm w/ 6 ppg of sand. Spot 12 bbls of 15% HCL acid in flush for next stage. ISIP was 2024 w/ .81FG. 5 min was 1870. 10 min was 1843. 15 min was 1817. Leave pressure on well. 985 bbls EWTR. - Stage #3; RU WLT. RIH w/ frac plug & perf guns. Set plug @ 5150'. Perferate C sds @ 5044-48' w/ 3 spf for total of 12 shots. RU BJ & open well w/ 1777 psi on casing. Perfs broke down @ 2320 psi back to 2273 psi w/ 2 bbls @ 4 bpm. Pump 30 gals of Techni Hib chemical @ 4% by volume. Frac w/ 15,021#'s of 20/40 sand in 288 bbls of Lightning 17 frac fluid. Treated @ ave pressure of 3337 @ ave rate of 24 bpm w/ 6 ppg of sand. Spot 12 bbls of 15% HCL acid in flush for next stage. ISIP was 2174 w/ .86FG. 5 min was 1785. 10 min was 1789. 15 min was 1780. Leave pressure on well. 1273 bbls EWTR

Daily Cost: \$0

Cumulative Cost: \$64,812

7/27/2010 Day: 3

Completion

Rigless on 7/27/2010 - Finish frac well. Flow well back. - Stage #5; RU WLT. RIH w/ frac plug

& perf guns. Set plug @ 4595'. Perferate GB6 sds @ 4388-95', GB4 sds @ 4335-38', 4329-31' w/ 3 spf for total of 36 shots. RU BJ & open well w/ 1584 psi on casing. Perfs broke down @ 1710 psi back to 1723 psi w/ 2 bbls @ 2 bpm. Pump 30 gals of Techni Hib chemical @ 4% by volume. Frac w/ 36,540#'s of 20/40 sand in 420 bbls of Lightning 17 frac fluid. Treated @ ave pressure of 2681 @ ave rate of 43 bpm w/ 6 ppg of sand. ISIP was 2270 w/ .95FG. 5 min was 1958. 10 min was 1888. 15 min was 1874. 2017 bbls EWTR. RD BJ & WLT. Flow well back. Well flowed for 1.5 hours & turned to oil. RU Perforators WLT, crane & lubricator. RIH w/ Weatheford 5-1/2" (6k) composite solid plug & set @ 4280'. SIFN w/ 1797 bbls EWTR.

Daily Cost: \$0

**Cumulative Cost:** \$94,512

#### 8/2/2010 Day: 5

Completion

WWS #5 on 8/2/2010 - Drlg plugs. C/O to PBTD. RU to flow overnight. - RU swivel, pump & tanks. Drlg out kill plug in 20 min. Continue drlg out plug. Tag sand @ 6065'. C/O to PBTD @ 6193'. LD 3 jts tbg. RU to flow over night on 24/64 choke. 1297 bbls EWTR. - MIRUSU. Open well w/ 0 psi on casing. RD Cameron BOP's & frac head. Instal 3M production tbg head & Schefer BOP's. RU 4-3/4" Chomp mill & x-over sub. Tally, pickup, drift & TIH w/ new J-55, 2-7/8", 6.5#, 8EUE tbg to leave EOT @ 3810'. Circulate well clean. SIFN. - MIRUSU. Open well w/ 0 psi on casing. RD Cameron BOP's & frac head. Instal 3M production tbg head & Schefer BOP's. RU 4-3/4" Chomp mill & x-over sub. Tally, pickup, drift & TIH w/ new J-55, 2-7/8", 6.5#, 8EUE tbg to leave EOT @ 3810'. Circulate well clean. SIFN. - RU swivel, pump & tanks. Drlg out kill plug in 20 min. Continue drlg out plug. Tag sand @ 6065'. C/O to PBTD @ 6193'. LD 3 jts tbg. RU to flow over night on 24/64 choke. 1297 bbls EWTR.

Daily Cost: \$0

**Cumulative Cost:** \$136,487

#### 8/3/2010 Day: 6

Completion

WWS #5 on 8/3/2010 - Kill well. TIH w/ production tbg. - Open well w/ 650 psi on casing. Pump 200 bbls of 10# brine wtr. RD BOP's. Set TA @ 5866' w/ 18,000#'s tension w/ SN @ 5900' w/ EOT @ 5964'. Flush tbg w/ 50 bbls water. Pick-up & prime pump. TIHw/ new Cntrl Hydrlc 2-1/2"  $\times$  1-3/4"  $\times$  17'  $\times$  24' RHAC pump w/ 224'SL, 4- 1-1/2" weight rods, 231- 7/8" guided (8per) rods, 2' x 7/8" pony rod, 1-1/2" x 30' polish rod. Space pump. Test tbg to 800 psi. RDMOSU. POP @ 3PM w/ 144"SL @ 4 spm w/ 500 bbls EWTR. Final Report. - Open well w/ 650 psi on casing. Pump 200 bbls of 10 $^{\#}$  brine wtr. RD BOP's. Set TA @ 5866' w/ 18,000 s tension w/ SN @ 5900' w/ EOT @ 5964'. Flush tbg w/ 50 bbls water. Pick-up & prime pump. TIHw/ new Cntrl Hydrlc 2-1/2" x 1-3/4" x 17' x 24' RHAC pump w/ 224'SL, 4- 1-1/2" weight rods, 231- 7/8" guided (8per) rods, 2' x 7/8" pony rod, 1-1/2" x 30' polish rod. Space pump. Test tbg to 800 psi. RDMOSU. POP @ 3PM w/ 144"SL @ 4 spm w/ 500 bbls EWTR. Final Report. - Open well 1050 psi on csg. Blew well down. Pump 200 bbls brine. TOOH w/ tbg. LD mill & x-over sub. TIH w/ NC, 2 jts tbg, SN, 1 jt tbg, TA new Cntrl Hydrlc w/ 45,000#'s shear, 187 jts tbg. Well flowing. SIFN w/ 800 bbls EWTR. - Open well 1050 psi on csg. Blew well down. Pump 200 bbls brine. TOOH w/ tbg. LD mill & x-over sub. TIH w/ NC, 2 jts tbg, SN, 1 jt tbg, TA new Cntrl Hydrlc w/ 45,000#'s shear, 187 jts tbg. Well flowing. SIFN w/ 800 bbls EWTR. Finalized

Daily Cost: \$0

Cumulative Cost: \$145,822

Pertinent Files: Go to File List

Form 3160-4 (August 2007)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB NO. 1004-0137 Expires: July 31, 2010

5. Lease Serial No.

VA/EL I	COMPL	ETION	ΛD	RECOMPL	ETION	DEDADT	AND	100
WELL	COMPL	.EHON	UK	RECOMPL	LE HON	KEPURI	AND	LUG

rioduced		resieu	riodaction	DDL	MCF	DDL	Con. A	PI	Giavi	ıy			Ç.	RECEIVE	ED
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL		Water BBL	Oil Gra Corr. A		Gas Gravii		Product	ion Method			
28a. Produc	ction - Interv		·		Ta				lc .		h .				
2-7 )	SI		-												
Size	Flwg.	Csg. Press.	24 Hr. Rate	BBL		Water BBL	Ratio			Status DUCIN	IG				
8-2-10 Choke	8-15-10 Tbg. Press.	24 Csa	24 Hr	13 Oil	9 Gas	17 Water	Gas/Oil		Well 5	Statue					
Produced		Tested	Production	BBL	MCF	BBL	Corr. A		Gravit	ty	2-1/2"	x 1-3/4" x 1	17' x 24' R	HAC Pump	
28 Product Date First	tion - Interva Test Date	Al A Hours	Test	Oil	Gas	Water	Oil Gra	vity	Gas		Product	ion Method			
4875-488		-1 A	Frac w	/ 20460#'s	s 20/40 sand ii	n 122 bbls	of Lightn	ing 17 flu	ıid.						
5044-504					s 20/40 sand in										
5395-542					s 20/40 sand ii										<del>_</del>
5713-590					s 20/40 sand i										
27. Acid, F	Depth Inter		nent Squeeze	z, etc.				Amount ar	nd Type	of Mater	ial				
D) Green		atmost C	nent Squeeze	a oto		4875-4	880' D1		[.3	36"	3		15		
Green							048' C			36"	3		12		
B) Green						<del> </del>	421' A3			36"	3		27		
A) Green						5713-5	904' CP	.5, 1, 2, 4		36"	3		36		
	Formation			Гор	Bottom		erforated In			Size	-	No. Holes		Perf. Status	
2-7/8" 25. Produc	ing Intervals	<u> </u>	TA @ 5866	,		26. P	erforation	Record						<u> </u>	
Size		Set (MD)	Packer Dep	, , ,	Size	Depth 3	Set (MD)	Packer D	epth (MI	D)	Size	Dep	th Set (MD)	Packer Depth	(MD)
24. A Tubing	<u> </u>							1							
April 1	1							-							
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+			·····	-			ļ <u>-</u>		-					
MENT TO STATE OF THE STATE OF T	-					1		400 50/	50 PO	4					
7-7/8"	5-1/2" J	-55   15.	5# 0		6240'			250 PR				104'			
12-1/4"	8-5/8" J-		<u> </u>		489'			240 CL	ASS G						
ੂ Hole Size	Size/Gra	ade Wt.	(#/ft.) T	Гор (МД)	Bottom (MI		Cementer epth		f Sks. & of Cemen		Slurry Vo (BBL)	I. Cem	ent Top*	Amount Pulle	ed
23. Casing	and Liner R	Record (Rej	port all strin	gs set in wei	(I)			L					res (Subill	ir ooby)	
					EUTRON,GR,	CALIPER,	СМТ ВО		Was	DST run	?	<b>☑</b> № □	Yes (Subm Yes (Subm	it report)	
21. Type E		D 6127' ner Mechani	cal Logs Run	(Submit co	ny of each)	TVD 6 11	7		2. Was	well core	ed?	TVD V No	Yes (Subm	it analysis)	
18. Total D	epth: MD		10111112		ug Back T.D.:	MD 6193	1			h Bridge	Plug Se	t: MD	C 100 110		
14 Date Sp 06/29/201			15. Date 1 07/14/26	Γ.D. Reache 010	ed .		Date Com		3/03/20° ady to P		Ī	17. Elevation 5444' GL	ns (DF, RK 5456' KR	IB, RT, GL)*	
At total d		FNL & 14			EC. 2, T9S, R							DUCHES		UT	
At top pro	_	•			13' FEL (LOT 1	, , ,		195, K16	o⊏ (ML-	-21839)	'	12. County		13. State	
3 A.	المناسبة الما		442017	ENII 0 404	121 EEL /1 OT 4	I) /NE/NE/	SEC 3	TOO DA	2E /k41	240201					
At surfac	<sup>26</sup> 750' FN	L & 755' F	FEL (LOT 1	I) (NE/NE)	) SEC. 2, T9S,	, R16E (ML	21839)					11. Sec., T., Survey	, R., M., on l or Area	Block and :. 2, T9S, R16E	
.N.**												GREATER	MB UNIT		
4 Location			000 DENVER, ion clearly ai		dance with Feder			-3/21				43-013-50 10. Field an		ploratory	
3. Address		T 011177 4/	100 DENVED	00 00000			3a. Phone (435)646	No. (inclu	de area d	code)		9. AFI Well			<del></del>
2. Name of NEWFIEL	Operator D EXPLOI	RATION (	COMPANY									<ol><li>Lease Na MON BUT</li></ol>			
ji .		Othe										GMBU			
b Type of	Completion	: 🔽 New	Well	Work Over	Deepen D	Plug Back	Dif	f. Resvr.,				7 H-2C		nt Name and No.	<u>_</u>
la. Type of	Well	<b>✓</b> Oil \	Well	Gas Well	Dry	Other						6. If Indian,	Allottee or	Tribe Name	<del></del>
1.1												ML-21839			

8b. Prod	uction - Inte	rval C								
ate First		Hours	Test	Oil	Gas	Water	Oil Gravity	Gas	Production Method	
oduced		Tested	Production	BBL	MCF	BBL	Corr. API	Gravity		
C. C.	The December		24.17-	0:1	Car	Water	Gas/Oil	Well Status		Manufacture of the second of t
hoke ze	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Ratio	wen Status		
	SI									
c Produ	action - Inte	rval D				i			· · · · · · · · · · · · · · · · · · ·	<del></del>
		Hours	Test	Oil	Gas	Water	Oil Gravity	Gas	Production Method	
oduced		Tested	Production	BBL	MCF	BBL	Corr. API	Gravity		
	,		<b>-&gt;</b>							
	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status		
<i>.</i>	SI	11033.	Rate	DDL	IVICI	BBE	Ratio			
		<u> </u>								<del></del>
-		i (Solid, u	sed for fuel, ve	etc.)	ı					
SED FOR								la. d	· · · · · · · · · · · · · · · · · · ·	
Sumn	nary of Poro	us Zones	(Include Aqu	ifers):				31. Format	tion (Log) Markers	
							l drill-stem tests,	GEOLOG	SICAL MARKERS	
includi recover		erval teste	d, cushion use	ed, time to	ol open, flow	ing and shut-in	pressures and			
									1/2/1	
		7	Dattana		Doo	amintiana Canta	unta ata		Name	Тор
, rom	nation	Тор	Bottom		Des	criptions, Conte	mts, etc.		Name	Meas. Depth
9				_				GARDEN G	ULCH MRK	3816'
								GARDEN G		4025'
								GARDEN G	LII CH 2	4147'
		}						POINT 3	0.0772	4398'
								X MRKR		4670'
								Y MRKR		4703'
								DOUGALS	CREEK MRK	4830'
								BI CARBON	IATE MRK	5078'
								B LIMESTO	N MRK	5205'
								CASTLE PE	EAK	5685'
								BASAL CAR	BONATE	6128'
. Addit	ional remarl	cs (include	e plugging pro	cedure):						
tage 5:	Green Ri	ver Forn	nation (GB4	& GB6)	4329-4395	, .36" 3/36	Frac w/ 36540#'s	s of 20/40 san	d in 211 bbls of Lightning	17 fluid
					· ·					
	4 12.1 24	ms have I	een attached	hy placing	a check in the	appropriate bo	oxes.			
3 Indica		ms nave c	con anaionea	by placing		_			_	
3. Indica	ite which ite	anical Log	s (1 full set req	'd.)		Geologic Repor	rt 🔲 DST I	Report	✓ Directional Survey	
_			g and cement ve	erification		Core Analysis	✓ Other	Drilling Daily	Activity	
☐ Elec	ctrical/Mech	or plugginį	•			nnlete and corre	ect as determined fr	om all available	records (see attached instruction	ons)*
☐ Elec	ctrical/Mecha			ached info	rmation is coi	p.++++				
Elec	dry Notice for	at the fore	egoing and atta					trative Assista	ınt	
Electric Sun	dry Notice for the dry Notice for the dry Notice for the dry t	at the fore					Title Adminis	trative Assista	nt	
Electric Sun	dry Notice for	at the fore	egoing and atta					***************************************	int	

(Continued on page 3) (Form 3160-4, page 2)



# **NEWFIELD EXPLORATION**

USGS Myton SW (UT) SECTION 2 9S 16E I-2-9-16

Wellbore #1

**Design: Actual** 

# **Standard Survey Report**

14 July, 2010





Survey Report



Company:

**NEWFIELD EXPLORATION** 

Project:

USGS Myton SW (UT)

Site:

SECTION 2 9S 16E

Well: Wellbore:

I-2-9-16 Wellbore #1

Design:

Actual

Local Co-ordinate Reference:

**TVD Reference:** 

MD Reference:

North Reference:

System Datum:

**Survey Calculation Method:** 

Database:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) I-2-9-16 @ 5456.0ft (Original Well Elev)

True

Minimum Curvature

Mean Sea Level

EDM 2003.21 Single User Db

**Project** 

USGS Myton SW (UT), DUCHESNE COUNTY, UT, USA

Map System: Geo Datum:

US State Plane 1983

North American Datum 1983

Map Zone:

**Position Uncertainty:** 

Utah Central Zone

Site

From:

SECTION 2 9S 16E, SEC 2 9S 16E

0.0 ft

Site Position:

Map

Northing: Easting:

7,193,600.00ft 2,036,100.00ft

Latitude:

Longitude: Grid Convergence:

40° 3' 34.952 N 110° 5' 10.480 W

0.91°

Well

I-2-9-16, SHL LAT: 40 03 54.30, LONG: -110 04 47.70

**Well Position** 

0.0 ft

Northing: Easting:

Slot Radius:

7,195,585.45 ft

2,037,839.80 ft

Latitude: Longitude: 40° 3' 54.300 N

52,470

**Position Uncertainty** 

+E/-W 0.0 ft 0.0 ft

Wellhead Elevation:

5,456.0 ft

**Ground Level:** 

65.86

110° 4' 47.700 W 5,444.0 ft

Wellbore

Wellbore #1

Magnetics

Model Name

IGRF200510

Sample Date

2009/11/04

Declination (°)

Dip Angle (°)

**Field Strength** (nT)

Actual

**Audit Notes:** 

Version:

Design

1.0

Phase:

ACTUAL

Tie On Depth:

11.51

0.0

**Vertical Section:** 

Depth From (TVD) (ft) 0.0

+N/-S (ft) 0.0

+E/-W (ft) 0.0

Direction (°) 230.16

**Survey Program** 

Date 2010/07/14

From (ft)

505.0

To

(ft)

Survey (Wellbore)

6,201.0 Survey #1 (Wellbore #1)

**Tool Name** 

MWD

Description MWD - Standard

Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
505.0	1.12	166.70	505.0	-4.8	1.1			0.00	0.00
536.0	1.08	165.12	536.0	-5.4		2.2	0.22	0.22	0.00
566.0					1.3	2.5	0.16	-0.13	-5.10
	0.88	195.73	566.0	-5.9	1.3	2.8	1.84	-0.67	102.03
597.0	1.36	244.16	597.0	-6.3	0.9	3.3	3.28	1.55	156.23
628.0	1.93	255.54	627.9	-6.6	0.1	4.2	2.11	1.84	36.71
659.0	2.81	249.65	658.9	-7.0	-1.2	5.3	2.94	2.84	-19.00
689.0	3.27	244.82	688.9	-7.6	-2.6	6.9	1.75	1.53	-16.10
720.0	3.82	243.24	719.8	-8.4	-4.3	8.7	1.80	1.77	-5.10
751.0	4.42	238.40	750.7	-9.5	-6.3				
, 01.0	7.72	200.40	130.1	-9.5	-0.3	10.9	2.24	1.94	-15.61
781.0	4.70	234.60	780.6	-10.8	-8.3	13.3	1.37	0.93	-12.67
812.0	5.16	234.33	811.5	-12.4	-10.4	15.9	1.49	1.48	-0.87
857.0	5.17	231.06	856.3	-14.8	-13.7	20.0	0.65	0.02	-7.27



Survey Report



Company:

**NEWFIELD EXPLORATION** 

Project:

USGS Myton SW (UT) SECTION 2 9S 16E

Site: Well:

I-2-9-16 Wellbore #1

Wellbore: Design:

Actual

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) I-2-9-16 @ 5456.0ft (Original Well Elev)

1-2-8

North Reference:

True

Survey Calculation Method:

Database:

Minimum Curvature EDM 2003.21 Single User Db

Survey

Measured			Vertical			Vertical	Doglas	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Dogleg Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
903.0	6.33	228.86	902.1	-17.8	-17.2	24.6	2.57	2.52	-4.78
948.0	7.43	232.71	946.8	<b>-21.2</b>	-21.4	30.0	2.65	2.44	8.56
993.0	8.06	233.63	991.4	-24.8	-26.2	36.0	1.43	1.40	2.04
1,039.0	8.99	232.86	1,036.9	-28.9	-31.7	42.8	2.04	2.02	-1.67
1,084.0	9.21	235.19	1,081.3	-33.1	-37.4	49.9	0.95	0.49	5.18
1,129.0	9.29	234.27	1,125.7	-37.3	-43.3	57.2	0.37	0.18	-2.04
1,175.0	9.56	234.05	1,171.1	-41.7	-49.5	64.7	0.59	0.59	-0.48
1,220.0	9.51	234.51	1,215.5	-46.0	-55.5	72.1	0.20	-0.11	1.02
1,265.0	9.76	233.70	1,259.8	-50.4	-61.6	79.6	0.63	0.56	-1.80
1,310.0	10.27	232.56	1,304.1	-55.1	-67.9	87.4	1.22	1.13	-2.53
1,356.0	10.17	231.15	1,349.4	-60.2	-74.3	95.6	0.59	-0.22	-3.07
1,401.0	10.09	231.15	1,393.7	-65.1	-80.4	103.5	0.18	-0.18	0.00
1,446.0	10.22	232.12	1,438.0	-70.1	-86.7	111.4	0.48	0.29	2.16
1,492.0	10.14	232.02	1,483.3	-75.1	-93.1	119.6	0.18	-0.17	-0.22
1,537.0	10.04	232.20	1,527.6	-79.9	-99.3	127.4	0.23	-0.22	0.40
1,628.0	10.33	231.10	1,617.2	-89.9	-111.9	143.5	0.38	0.32	-1.21
1,673.0	10.61	226.98	1,661.4	-95.2	-118.1	151.7	1.78	0.62	-9.16
1,718.0	10.26	226.67	1,705.7	-100.8	-124.0	159.8	0.79	-0.78	-0.69
1,764.0	9.69	224.80	1,751.0	-106.4	-129.7	167.8	1.43	-1.24	-4.07
1,809.0	9.73	223.61	1,795.3	-111.8	-135.0	175.3	0.45	0.09	-2.64
1,854.0	10.29	224.34	1,839.6	-117.5	-140.5	183.1	1.28	1.24	1.62
1,900.0	9.69	223.37	1,884.9	-123.2	-146.0	191.0	1.35	-1.30	-2.11
1,945.0	9.50	222.53	1,929.3	-128.7	-151.1	198.5	0.52	-0.42	-1.87
1,990.0	9.87	223.44	1,973.7	-134.2	-156.3	206.0	0.89	0.82	2.02
2,036.0	9.45	224.78	2,019.0	-139.8	-161.6	213.7	1.04	-0.91	2.91
2,081.0	10.11	226.75	2,063.4	-145.1	-167.1	221.3	1.64	1.47	4.38
2,126.0	9.76	230.38	2,107.7	-150.2	-172.9	229.0	1.59	-0.78	8.07
2.171.0	9.62	231.92	2,152.0	-155.0	-178.8	236.6	0.65	-0.31	3.42
2,217.0	9.31	230.41	2,197.4	-159.7	-184.7	244.2	0.86	-0.67	-3.28
2,262.0	9.12	229.00	2,241.8	-164.4	-190.2	251.4	0.66	-0.42	-3.13
2,307.0	9.16	230.64	2,286.3	-169.0	-195.7	258.5	0.59	0.09	3.64
2,353.0	9.43	232.51	2,331.7	-173.6	-201.5	266.0	0.88	0.59	4.07
2,398.0	9.93	233.13	2,376.0	-178.2	-207.5	273.5	1.13	1.11	1.38
2,442.0	9.82	233.39	2,419.4	-182.7	-213.6	281.0	0.27	-0.25	0.59
2,489.0	9.87	231.19	2.465.7	-187.6	-219.9	289.1	0.81	0.11	-4.68
2,534.0	9.95	231.35	2,510.0	-192.5	-226.0	296.8	0.19	0.18	0.36
2,579.0	9.56	230.78	2,554.4	-197.3	-231.9	304.4	0.89	-0.87	-1.27
2,624.0	9.07	229.46	2,598.8	-201.9	-237.5	311.7	1.19	-1.09	-2.93
2,670.0	9.03	231.14	2,596.6	-201.9	-243.1	311.7	0.58	-0.09	-2.93 3.65
2,715.0	9.51	235.72	2,688.6	-210.9	-248.9	326.2	1.96	1.07	10.18
2,760.0	10.00	236.53	2,733.0	-215.1	-255.2	333.8	1.13	1.09	1.80
2,806.0	10.68	234.66	2,778.2	-219.8	-262.0	342.0	1.65	1.48	-4.07
2,851.0	11.34	232.60	2,822.4	-224.9	-268.9	350.6	1.71	1.47	-4.58
2,896.0	11.54	232.60	2,822.4 2,866.5	-224.9 -230.4	-268. <del>9</del> -275.9	350.6 359.5			
2,942.0	11.25	230.29	2,000.5	-230.4 -236.3	-275.9 -282.9	368.6	1.15 0.87	0.53 -0.72	-5.13 -2.48
2,987.0	11.54	229.13	2,955.7	-230.3 -242.2	-289.5	300.0 377.5	0.87	-0.72 0.64	-2.46 -2.84
3,032.0	11.82	227.22	2,999.8	-248.4	-296.3	386.6	0.69	0.62	-2.04 -1.44
•									
3,077.0	11.25	226.25	3,043.8	-254.5	-302.8	395.6	1.34	-1.27	-2.16
3,123.0	11.10	227.87	3,089.0	-260.6	-309.3	404.5	0.76	-0.33	3.52
3,168.0	10.61	227.00	3,133.2	-266.3	-315.6	412.9	1.15	-1.09	-1.93
3,213.0	9.89	223.41	3,177.4	-272.0	-321.3	420.9	2.14	-1.60	-7.98
3,259.0	9.93	226.64	3,222.8	-277.6	-326.9	428.8	1.21	0.09	7.02
3,304.0	9.92	228.28	3,267.1	-282.8	-332.6	436.5	0.63	-0.02	3.64
3,349.0	9.76	228.93	3,311.4	-287.9	-338.3	444.2	0.43	-0.36	1.44



Survey Report



Company:

**NEWFIELD EXPLORATION** 

Project:

USGS Myton SW (UT) SECTION 2 9S 16E

Site: Well:

I-2-9-16 Wellbore #1

Wellbore: Design:

Actual

Local Co-ordinate Reference:

TVD Reference:

: Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) I-2-9-16 @ 5456.0ft (Original Well Elev)

North Reference:

True

Survey Calculation Method:

Database:

Minimum Curvature

EDM 2003.21 Single User Db

#### Survey

(ft) (°) (°) (ft) (ft) (ft) (°/100ft) (°/100	
3,395.0 9.51 231.30 3,356.8 -292.8 -344.2 451.9 1.02 -	0.54 5.15
	0.58 -1.36
3,485.0 8.83 228.38 3,445.6 -302.0 -355.3 466.3 1.23 -	0.93 -5.13
3,531.0 9.27 228.97 3,491.0 -306.8 -360.8 473.6 0.98	0.96 1.28
3.576.0 9.29 229.57 3.535.5 -311.5 -366.3 480.8 0.22	0.04 1.33
3,621.0 9,36 230.84 3,579.9 -316.2 -371.9 488.1 0.48	0.16 2.82
3,667.0 9.01 231.10 3,625.3 -320.8 -377.6 495.5 0.77 -	0.76 0.57
3,712.0 8.42 229.74 3,669.8 -325.2 -382.8 502.3 1.39 -	1.31 -3.02
3,757.0 8.66 228.12 3,714.3 -329.6 -387.9 509.0 0.76	0.53 -3.60
	0.85 2.48
	0.40 3.64
	0.24 3.38
3,938.0 9.78 232.23 3,892.9 -347.8 -410.1 537.7 1.47	1.47 -0.42
	0.67 1.96
4,029.0 10.17 230.67 3,982.6 -357.5 -422.7 553.6 0.98	0.18 -5.47
	0.20 -2.82
	0.48 -2.22
	0.33 -0.40
4,210.0 10.22 224.46 4,160.8 -378.6 -446.4 585.3 1.63	0.73 -8.31
	0.24 12.59
	1.02 -1.67
	1.02 2.53
4,392.0 9.95 229.17 4,340.0 -399.1 -470.3 616.8 0.66 -	0.35 -3.20
	0.38 -1.36
	1.18 1.56
	0.58 -3.13
	0.07 -1.91
	1.40 -3.56
	0.73 -1.71
	0.72 -3.43
	0.38 1.11
4,799.0 8.44 228.42 4,742.3 -441.2 -514.8 678.0 2.04	1.33 10.89
	0.87 -0.49
4,890.0 8.96 231.14 4,832.3 -450.3 -525.3 691.9 1.03	0.28 6.39
	1.71 2.11
	0.24 -8.82
	0.35 -1.54
	0.36 -1.60
	0.78 1.60
	0.76 7.17
	0.09 -0.36
	0.20 3.82
· ·	0.37 -2.21
I-2-9-16 TGT	
	0.37 -2.25
	1.15 -0.48
	0.40 0.42
	0.20 0.24
	1.07 4.80
	0.24 -2.73
	0.76 -0.42
5,615.0 9.51 231.79 5,547.7 -524.7 -615.7 808.9 1.22	1.22 -0.59
	0.98 -2.02
5,705.0 8.94 230.62 5,636.6 -533.7 -626.8 823.2 0.30 -	0.29 -0.58



Survey Report



Company:

**NEWFIELD EXPLORATION** 

Project:

USGS Myton SW (UT)

Site: Well:

SECTION 2 9S 16E I-2-9-16

Wellbore: Design:

Wellbore #1 Actual

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Database:

Well I-2-9-16

I-2-9-16 @ 5456.0ft (Original Well Elev) I-2-9-16 @ 5456.0ft (Original Well Elev)

True

Minimum Curvature

EDM 2003.21 Single User Db

i	Sui	vey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,751.0	9.80	227.94	5,682.0	-538.6	-632.5	830.7	2.10	1.87	-5.83
5,796.0	10.55	230.91	5,726.2	-543.8	-638.5	838.7	2.03	1.67	6.60
5,841.0	10.61	229.70	5,770.5	-549.0	-644.9	846.9	0.51	0.13	-2.69
5,887.0	10.02	231.46	5,815.7	-554.3	-651.3	855.2	1.45	-1.28	3.83
5,932.0	9.40	230.95	5,860.1	-559.0	-657.2	862.7	1.39	-1.38	-1.13
5,977.0	8.48	230.56	5,904.5	-563.4	-662.6	869.7	2.05	-2.04	-0.87
6,022.0	8.39	232.07	5,949.1	-567.6	-667.7	876.3	0.53	-0.20	3.36
6,068.0	8.06	232.25	5,994.6	-571.6	-672.9	882.9	0.72	-0.72	0.39
6,113.0	7.29	234.11	6,039.2	-575.2	-677.7	888.9	1.80	-1.71	4.13
6,158.0	6.61	231.02	6,083.9	-578.5	-682.1	894.3	1.72	-1.51	-6.87
6,201.0	6.22	231.43	6,126.6	-581.5	-685.8	899.2	0.91	-0.91	0.95

#### **Wellbore Targets**

Ta	raet	Na	me

<ul><li>hit/miss target</li><li>Shape</li></ul>	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
I-2-9-16 TGT	0.00	0.00	5,200.0	-465.5	-558.0	7,195,111.12	2,037,289.29	40° 3' 49.699 N	110° 4' 54.877 W
actual wallacth r	mianaa hu 30	E# at E0E0	ES NAD /EA	05 7 TV/D 4	00 4 NL 574	7 (-)			

- actual wellpath misses by 28.5ft at 5258.5ft MD (5195.7 TVD, -490.1 N, -571.7 E)

<ul> <li>Circle</li> </ul>	(radius	75.0)
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Checked By:	Approved By:	Date:



Project: USGS Myton SW (UT) Site: SECTION 2 9S 16E

Well: I-2-9-16 Wellbore: Wellbore #1

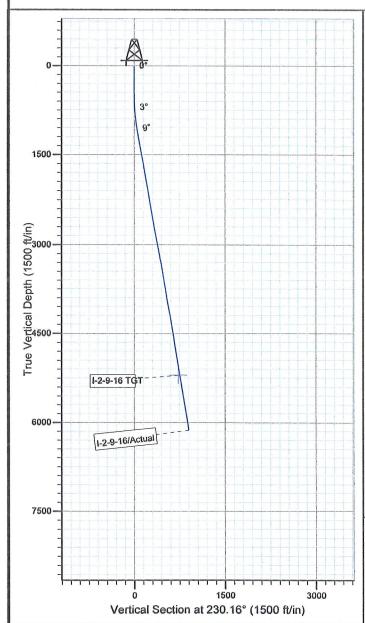
SURVEY: Actual

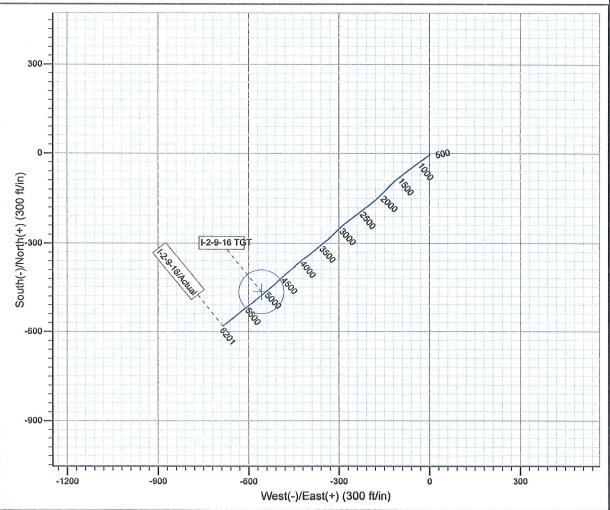
FINAL SURVEY REPORT



Azimuths to True North Magnetic North: 11.51°

Magnetic Field Strength: 52469.5snT Dip Angle: 65.86° Date: 2009/11/04 Model: IGRF200510







Design: Actual (I-2-9-16/Wellbore #1)

Created By: Sim hudson Date: 20:02, July 14 2010 THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS SUPPORTED BY ACTUAL FIELD DATA.

#### **Daily Activity Report**

# Format For Sundry MON BUTTE I-2-9-16 5/1/2010 To 9/30/2010

#### **MON BUTTE I-2-9-16**

**Waiting on Cement** 

**Date:** 7/2/2010

Ross #21 at 490. Days Since Spud - casing (guide shoe, shoe jt, baffle plate, 10 jts) set @ 488.9' KB. On 7/2/10 BJ Services cemented - 8 5/8" casing w/ 240 sks Class "G" + 2% CaCl2 + 0.25#/sk Cello Flake at 15.8 ppg w/ 1.17 yield. - Returned 8 bbls to pit. - On 6/29/10 Ross Rig #21 spud MB I-2-9-16, drilled 490' of 12 1/4" hole, and ran 11 jts 8 5/8"

Daily Cost: \$0

**Cumulative Cost:** \$35,776

#### **MON BUTTE I-2-9-16**

TIH

**Date:** 7/11/2010

Capstar #328 at 490. 0 Days Since Spud - Test casing to 1500#s for 30 min - Floor valve & Pipe rams Inside choke valves Blind rams outside choke valves to 2000#s for 10 min - Nipple Bops - Move rig w/ Howcroft Trucking to I-2-9-16 on 7/10/10 - Repair rig - RU flow line & Hook up choke lines - PU BHA Smith MI 616 PDC-Dog sub-6.5" 7/8 lobe 4.8 stg .33 MM-NMDC-Gap sub-Ant sub-NMDC - 9-4.5" HWDP Tag cmt @ 360' - Accept rig @ 8:00 PM 7/10/10 & Hold saftey mtg & RU & Test bops B&C Quick test & Upper kelly cock &

Daily Cost: \$0

Cumulative Cost: \$111,659

#### **MON BUTTE I-2-9-16**

#### Drill 7 7/8" hole with fresh water

**Date:** 7/12/2010

Capstar #328 at 3671. 1 Days Since Spud - Rig serv - Drill 77/8" hole f/ 360 to 2040 WOB= 10/20 RPMS= 184 GPM= 409 ROP= 146' pr hr - Drill 77/8" hole f/ 2040 to 3671 WOB= 15/20 RPMS= 184 GPM= 409 ROP= 135.9' pr hr

Daily Cost: \$0

Cumulative Cost: \$140,445

#### **MON BUTTE I-2-9-16**

#### Drill 7 7/8" hole with fresh water

**Date:** 7/13/2010

Capstar #328 at 5618. 2 Days Since Spud - Drill 77/8" hole f/ 4668' to 5618' WOB= 18/20 RPMS= 184 GPM= 409 ROP= 73' pr hr - Rig serv - Drill 77/8" hole f/ 3671' to 4668' WOB= 18/20 RPMS= 184 GPM= 409 ROP= 94.9' pr hr

Daily Cost: \$0

Cumulative Cost: \$161,084

#### **MON BUTTE I-2-9-16**

Running casing

**Date:** 7/14/2010

Capstar #328 at 6251. 3 Days Since Spud - RU PSI & run Comp. Density ,Comp. Neutron,& Gamma Ray /Loggers TD 6250' - RU Top Drive & run 5.5" J55 15.5# LT&C Csg. - Finish running Csg. 143 jts 5.5" J55 15.5# LT&C/Tag @ 6220'/Wash down & land @ 6240'/Float collar @ - 6193.24 flag @ 4051.87' - RU BJ & circ. With rig pump - Cmt with BJ/Pumped 250 sks PLII+3%KCL+5#CSE+0.5#CF+2#KOL+.5#CF+2#KOL+.5SMS+FP=SF 11 ppg 3.53 yield - 400 sks 50:50:2+3%KCL++0.5%EC-1+.25#CF+.05#SF+.3SMS+FP-6L 14.4 ppg 1.24 yield - ND BOP's & set Csg slips with 85,000# tension - Clean mud tanks - Release rig @ 1400 7/14/10 - Finish LDDP & BHA - Pump 260 bbls of 10# Brine - LDDP to 3500'/Well flowing 3

GPM - Circ & Cond. For logs - Drill from 5618' to 6251'/WOB 25/RPM 60/GPM 409/ ROP 90 FPH - Release rig @ 1400 7/14/10 - Clean mud tanks - ND BOP's & set Csg slips with 85,000# tension - 400 sks 50:50:2+3%KCL++0.5%EC-1+.25#CF+.05#SF+.3SMS+FP-6L 14.4 ppg 1.24 yield - Cmt with BJ/Pumped 250 sks PLII+3%

KCL+5#CSE+0.5#CF+2#KOL+.5#CF+2#KOL+.5SMS+FP=SF 11 ppg 3.53 yield - RU BJ & circ. With rig pump - 6193.24 flag @ 4051.87' - Finish running Csg. 143 jts 5.5" J55 15.5# LT&C/Tag @ 6220'/Wash down & land @ 6240'/Float collar @ - RU Top Drive & run 5.5" J55 15.5# LT&C Csg. - RU PSI & run Comp. Density ,Comp. Neutron,& Gamma Ray /Loggers TD 6250' - Finish LDDP & BHA - Pump 260 bbls of 10# Brine - LDDP to 3500'/Well flowing 3 GPM - Drill from5618' to 6251'/WOB 25/RPM 60/GPM 409/ ROP 90 FPH - Circ & Cond. For logs

Finalized

Daily Cost: \$0

Cumulative Cost: \$175,126

Pertinent Files: Go to File List